EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT COMPUTERS BUT WERE AFRAID TO ASK

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(2nd Edition: October 1984)

Abort--To force a program to stop before it reaches its normal end.

Absolute Code--|
Absolute Data--|Code or data assigned to specific (i.e., absolute) locations.

AC--Acronym for ACcumulator. There are four accumulators; AC0, AC1, AC2, and AC3.

Access--The operation of locating and manipulating database information.

Access Control List--A list of privileges, associated with every directory and
      file, that specifies the type of access allowed for any user.

Access Method--A utility program which manages the storage and retrieval
of   data. Information is often organized and stored in a different format
than   that used in processing by a program. The access method relieves the
need   to manage stored data and handle the reformatting.

Access Path--A hierarchical order of indexes and records (INFOS II) or record
sets (DG/DBMS) through which PRESENT searches for and selects data from an
INFOS II file or DG/DBMS database.

Access Privilege--The basis of AOS/VS file access protection. You can be
assigned up to four types of access privileges for files: Execute, Read,
Write, and Owner. For directories, you can be assigned up to five
privileges: Execute, Read, Write, Owner, and Append.

Access Rights--Privileges which control the DML commands that can be executed
against a particular subschema.

Access Time--The time it takes a computer to locate data or an instruction word
in its storage section and transfer it to its arithmetic unit where the
required computations are performed. The time it takes to transfer infor-
mation which has been operated upon from the arithmetic unit to the loca- tion
in storage where the information is to be stored. Synonymous with   read
time.

Acknowledge--Indication of the status of data on the input/output lines.
Abbreviated as ACK.

ACL--See Access Control List.

Accumulator--(Pertains to assembly language) A hardware register within the
CPU
of all Data General computers. Accumulators are used for arithmetic,
value
comparisons, and to load and store addresses. Each ECLIPSE MV-series
machine has four fixed-point, 32-bit accumulators and four floating-point,

64-bit accumulators.

ACK--Acronym for ACKnowlegement.

Acoustic Coupler--see MODEM.

Acronym--A word or abbreviation based upon the initials (and sometimes other letters) of the term it symbolizes. For example, LAZER is the acronym for Light Amplification by Stimulated Emission Radiation; MODEM is the acronym for MOdulator/DEModulator.

Address--A coded number that specifically designates a computer register or other internal storage location. Information is referenced by its addresses. Portions of computer control are responsible for directing information to or from an addressed location.

Address Bus--The set of wires, or the signal on those wires, which carry the binary-encoded addresses from the microprocessor to the rest of the computer.

Address Space--See Logical Address Space.

The Addressing Scheme of the 32-bit Processor:

Logical Addresses--The computer uses 31-bit word addresses and 32-bit byte addresses, which can refer to all 4 Gbytes of the logical address space.

Segmentation--The large logical address space is divided, or segmented, into eight smaller logical address spaces. Each of these eight segments is a complete address space of 512 Mbytes.

Mapping and Demand Paging--The size of the logical address space means that not all logical locations can be represented in physical memory at the same time. The demand paging system moves pages between physical memory and a storage device upon demand and also keeps track of pages currently in memory. The address translator translates the specified logical address to its physical equivalent.

Page--A page is a 2-Kbyte block of contiguous logical addresses. The demand paging system uses the page as the smallest unit of logical memory that can be moved between physical memory and storage devices.

Page Table--A page table is made up of page table entries (PTEs). Each PTE contains information about one page. The processor uses this information when translating a logical address to a physical one. A page table contains up to 512 PTEs.

Protection--The system uses a hardware-implemented hierarchical protection system that allows programs different levels of privilege. Each segment has a different level, or ring, of protection associated with it. This means that each ring governs the associated segment with a different degree of privilege. Ring 0 has the highest degree of protection; thus the kernel of the operating system resides in segment 0.

ADP--Acronym for Automatic Data Processing.

ADVENT--The Forest Service general reporting system used for processing informa
tion related to budgeting, RPA, attainment reports, etc. A collection of
computer programs which allows data from a variety of sources to interact and
to be displayed in various formats.

After-image--A copy of the data after a change.

Aggregate--An accumulated value of a numeric data item or computed variable
that you specify.

ALC Instruction--(Pertains to assembly language) An Arithmetic-Logical-Carry
instruction, like WMOV or MOV, used in arithmetic, bit manipulation, and
value
comparison.

Algebra, Boolean--A process of reasoning, or by a deductive systems of theorems
using a symbolic logic, and dealing with classes, propositions, or on/off
circuit elements. It employs symbols to represent operators such as AND, OR,
NOT, etc., to permit mathmetical calculation. Named after George   Boole,
famous English mathemetician (1815-1864).

ALGOL--Acronym for ALGOrithmic Language. One of the oldest programming
languages still in common use.

Algorithm--A detailed, organized, step-by-step plan for performing an action or
resolving a problem. When a programmer is preparing to write a program,
he/she normally writes algorithms for complex or unfamilliar operations,   and
these algorithms serve as specifications for the program. The term   sometimes
also refers directly to the main part of a complicated program.

Alias--(1) A code name with which FLIPS users may identify themselves.
Depending on the situation, this will be referred to as a primary,
secondary,
or remote alias. In Region 6, the user's official signature is   the primary
alias, and the user's last-name-first is the secondary alias   (used to
generate the alphabetical user directory). (2) In DG/DBMS: A   name for a
record, set, or data item in a subshcema that is different from   the name
specified in the schema.

Alignment Factor--A value within the range 1-10 describing a partition's
alignment along some memory boundary (e.g., double word alignment, 1K-word
alignment).

Allocate--Assign physical disc space for the database.

Allocation Technique--The method of providing a process with access to a shared
resource.

Alphanumeric--An acronym for ALPHAbetic NUMERIC.

Alternate Key--key field that is not the primary key of a file; keys in indexed
random structures are sometimes designated as "alternate".

ALU--Acronym for Arithmetic Logic Unit. The component of the CPU where data processing actually occurs through manipulation of information and evaluation of results.

Analog--The representation of numerical quantities by means of physical variables; e.g., translation, rotation, voltage, or resistance. Contrasted with "Digital".

AND--A binary function which is "on" if, and only if, all of its inputs are "on". AND is a logoc operation in which two bits are combined, producing one resulting bit according to the following rules:

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0 AND 0 ---> 0
0 AND 1 ---> 0
1 AND 0 ---> 0
1 AND 1 ---> 1
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ANSI--An acronym for Americal National Standards Institute, a committee that publishes standards for a large range of things, including computer languages and tapes, machine screws, copiers, and character sets.

Any Change Cycle--The Any Change Cycle allows you to verify or change your entries to a data-entry screen. After you have made the last response, the question "Any Change?" appears at the bottom of the screen. You may verify your entries (by responding "N", or pressing NEW LINE only), or you may respond "Y". You identify the item you want to change by entering its prompt number following the "What number?" question. This cycle repeats until you respond "N".

AOS/VS--Acronym for Advanced Operation System/Virtual Storage. DG's operating system for 32-bit computers.

APL--Acronym for A Programming Language. A high-level language primarily used for list and array processing. Highly compact source language with special symbols, and often requires a special keyboard and printer.

Application Program--A computer program for a given user that solves a specific problem or performs a specific action, such as producing bills, printing a report, or entering new data into a file. Contrasts with system control programs or utility programs, which perform generalized tasks for the benefit of all users.

Area--A named collection of records, usually corresponding to a file.

Archive--As a verb: To copy data and programs onto a low-cost storage medium such as tape, for long term retention. As a noun: A collection of such storage media.

Argument--(1) Something that is acted upon by a command, statement or instruction. For example, in QPRINT MYFILE, MYFILE is an argument to the QPRINT command. In PRINT * "Hello", both * and "Hello" are arguments to the PRINT statement. (2) An independent variable upon whose value the execution

of a command depends. Sone D410/460 commands include one or more arguments that combine with the command to define an action to be taken by the terminal.

Argument Switch—(1) A switch used in the LINK command line to modify the utility's handling of a specific object module or partition. (2) A switch used to modify a CLI command.

Arithmetic—A section within the computer where reasonable processes such as addition, subtraction, multiplication, and division are performed, and operands and results are stored temporarily.

Array—An organized collection of data arranged in rows and columns for ease in indexing. An individual item can be referenced (read or written) by specifying the name of the array and the row and column numbers of the item. Most high-level programming languages provide such a facility. Synonymous with matrix.

ASA Control Characters—A standard group of non-graphic specified by the American Standards Association (different from ANSI) for the control of computer printers.

ASCII—(pronounced "askey") Acronym for American Standard Code for Information Interchange. ASCII is an 8-bit code in which 7 bits indicate the character represented and the eighth is used for parity. The first 32 ASCII bit-patterns are reserved for various standard control characters such as carriage return, horizontal tab, etc. The following 96 characters are 0 through 9, A through Z, and a through z, with various symbols separating each group. ASCII is most commonly used on microcomputers and large mainframe computers.

ASG—The EXEC 8 control statement used to make mass-storage files and/or tapes available for use in a computer run.

Aspect Ratio—The relationship of the height and width of a viewing area, usually in reference to a video display screen.

Assembler—A computer program which operates on symbolic input data, to produce from such data, machine instructions by carrying out such functions as: t ranslation of symbolic operation codes into computer operating instructions or computation of absolute addresses from symbolic addresses.

Assembly Language—A series of names (called mnemonics) that represent the various combination of 1's and 0's which instruct the computer. Instead of typing "11001001" (machine instruction), the mnemonic "RET" instructs the computer to RETURN to a location stored by the computer.

Associative Memory—Computer memory wherein access is effected by data content rather than by location. In an associative memory, operations are performed simultaneously on all items satisfying a given criteria.

Asynchronous—Pertaining to the lack of time coincidence in a set of repeated

events where this term is applied to a computer to indicate that the execution of one operation is dependent upon a signal that the previous operation is completed.

AT&T--Acronym for American Telephone & Telegraph.

ATTCOM--Acronym for AT&T COMmunucations. The regulated subsidiary of AT&T which will provide long-distance telephone service between Bell Company service areas.

ATTIS--Acronym for AT&T Information Systems. The unregulated subsidiary of AT&T which will provide telephones, data terminals, PBX's, KTU's, etc.

Attributes-(1) The characteristics of a file, such as record format, logical record length, etc. In most computer systems, attributes are recorded along
withthe name of the file, since this information is useful and often necessary for file management. The term may also be used in a broader sense for the characteristics of any device in a computer system. (2) In DBMS, data items that describe an entity. In the relational model, the values for a given data item type in a relation. (3) For display terminals, an attribute is a characteristic associated with a character position on the display screen. For the D410/460 terminal, each character position can be programmed with five attributes: blink, dim, underscore, reverse video, and protect.

Automated Office--General term for performing office functions electronically.

Automatic--A membership insertion class of a set type, indicating that DG/DBMS automatically inserts new member record occurrences into the proper occurrence
of the set type.

Automatic Totaling--For Report Writer and Form Printing Programs you may request automatic totaling of any field. When a control break occurs at the appropriate level, totals are generated for the specified fields, and a total
line is printed.

Auxiliary Storage--In general, any medium for the storage of data outside the main memory of the computer, such as magnetic tape, disc, etc.

Bachmann Diagram--Graphic notaion for network data structures characterized by the use of rectangular boxes to represent record types and directed arrows from the owner record box to the member record box to indicate set types. Developed by Charles Bachman.

Back-End DBMS--The support of all or most DBMS functions by a "dedicated" processor, typically a minicomputer, which is interconnected with a mainframe system. All requests for database access by user programs are passed to the back-end DBMS for servicing.

Back-Out--See Roll-Back.

Backup--Files copied for safekeeping, usually onto magnetic tape, but sometimes onto other discs.

BANG--(!).

BASIC--Acronym for Beginner's All-purpose Symbolic Instruction Code. A programming language that is probably more widely used than any other. It relies on English-like instructions, thus accounting for its popularity and ease of learning.

Batch--The technique of processing in a continuous, non-interactive stream. Batch jobs are submitted via the QBATCH command (described in the CLI manual) and processed by the system in one of four streams. Batch jobs do not require a console and can execute without user interaction (for example, overnight) and are suitable for big, well organized things, like large sorts.

Batch Job--One or more programs submitted as a unit to batch.

Baud Rate--The transmission rate of information between computers, refers to the bit transmission rate. A fast selectric is roughly 150 baud, and a low speed modem used in microprocessor systems is 300 baud. Video terminals used as a console are normally 4800 or 9600 baud.

BCD--Acronym for Binary Coded Decimal. A code representing decimals in a binary format. Every digit value has a corresponding 4-bit BCD value, so that 0 is 0000, 1 is 0001, 2 is 0010, etc.

Before-Image--Data logged in a journal prior to the application of a change.

Benchmark Test--A set of standards used to evaluate systems. To compare the merits of different word processors, a user should develop a set of tasks that represent the work that will be done. In performing each of these tasks, the word processor is rated according to speed, quality, ease of operation, etc. For example, a user who needs to find documents quickly may set up a

benchmark test for determining how many keystrokes and how much time it takes to find a document on a disc.

Bi-directional Printing--The printing of lines both left-to-right and right-to-left. All typewriters and many automatic printers need to return to the left margin to print each line left-to-right. If there is a buffer in the printer, the next line and its format instructions can be held in memory. This enables the printer to print every other line "backwards": right-to-left.

Bifurcated--Having two electrical contacts in parallel, both of which close at the same time. Many keyboards have bifurcated keys, which increase the reliability of the keyboard by minimizing the effect of mechanical failure; if one contact fails, the other still works.

Binary--In computers and related devices, the fundamental method of representing information with electrical pulses. At any given instant, the electricity in a conductor may be either on, (represented by 1), or off, (symbolized by 0). Because there are two possible values, binary is a numbering scheme to the base 2. The familiar decimal system is to the base 10, having 10 possible values, 0 through 9. Working from right to left, decimal numbers have place values of units, tens, hundreds, etc. In binary, working from right to left, the place values are 1,2,4,8,16,32,64,128 in an 8-bit code. Conversion from binary to decimal is done by adding the place values of every position in which a 1 bit is present. The binary number 00110001 has a value of 49, since 32+16+1=49.

Binary Function--An operation performed by an electronic circuit which has one or more inputs and only one output. All inputs and outputs are binary signals. See AND, OR, and Exclusive OR.

Binding--The act of assigning absolute addresses to a program. The tying together (fixing) of specific data types required by an application program with data as it physically resides in the database.

Binding of (Sub) Schema--Taking the DDL or subschema DDL entered via the DDF and packing it into the tables (metadata) used by DG/DBMS.

Bionics--The application of knowledge gained from the analysis of living systems to the creation of hardware that will perform functions in a manner analogous to the more sophisticated functions of the living system.

BIOS--Acronym for Basic Input/Output System. The portion of an operating system used to handle all machine-dependent transactions.

Bi-stable--The capability of assuming either of two stable states, hence, of storing one bit of information.

Bit--Acronym for Binary digIT. Can assume one of two values, 0 or 1. But 16 bits, as used in a DG computer word can indicate 65,536 different numbers. 32 bits in two computer words can indicate over 4 billion numbers.

Bit Array--A set implementation technique whereby each record in a database or file is represented by a single bit, which may be "on" or "off " to signify membership or nonmembership, respectively.

Bit Field--A portion (series of bits) of a word or double word.

Bit Field Relocation Entry--A relocation entry generated by the language processor to describe the relocation of a bit field.

Block--A physical grouping of records in some storage structures. This is usually the primary unit of transfer between the storage device and the main memory. A logical grouping of contiguous words of code in main memory or on a peripheral storage device. Except for disc blocks, the size can vary.

Block I/O--One of two input/output modes in which you can access a file. Information is transferred in 512-byte disc blocks, magnetic tape blocks, or MCA blocks.

AOS/VS always performs I/O in block units, whether you employ block or record I/O.

Block Length--The number of bytes per block. See Block.

Block Marker--See Marker (2).

Block Types--Octal values that identify object blocks and implicitly define their functions.

Blocked Process--One of three process states, in which a process is waiting for a specific external event to occur so that it can gain control of the central processor. A process can block itself or become blocked involuntarily.

BOC--Acronym for Bell Operating Company. In Region 6, this is Pacific Northwest Bell (PNB).

Boolean--See Algebra.

Boolean Array--See Bit Array.

BPS--Acronym for Bits Per Second. The number of bits of information that can be passed through telecommunication equipment in one second.

Break Field--A record, group, or data item that forces a report break when it changes value.

Break File--A status file in which AOS/VS, under certain conditions, saves the state of a terminated process.

Breakpoint--A place where a debugger stops program execution. At a breakpoint you can examine current values of variables (and with assembly language, accumulators). DG debuggers allow you to set as many breakpoints as you need.

Buffer--A memory in which information is temporarily stored during transfer from one device to another. A buffer is useful not only for holding data, but for adjusting for differences in speeds between the devices, or between the device and the communication facility.

Bug--An error in a program that causes it to malfunction. Lubarski's Law Of Cybernetic Entymology: "There's always one more bug".

Bus--A set of electrical conductors that carry electronic signals to the various components of a computer. The conductors as a whole are called a bus. They are logically broken down into three subsets called a data bus, an address bus, and a signal bus.

Byte--The storage capacity of a microcomputer's memory, or its discs, is always described as some number of bytes. A byte is a memory unit capable of storing a single character (8 bits).

Byte Pointer--A 32-bit (or 16-bit) value that points to the start of a byte string.

C--The name of a programming language. C was developed around the concept of structured programming and bears a strong resemblance to Pascal.

CALC--Randomized access to records.

Calendar--This function of CEO allows a user to plan and schedule meetings and appointments by consulting with the calendars of other users.

Call--As a verb: To leave the program or subroutine which is currently executing and to begin another, usually with the intent to return to the original program or subroutine. As a noun: An instruction which calls a subroutine.

Candidate Key--One or more data item types in a relation such that the values of the items uniquely identify tuples in the relation (relational model).

Card Format--The PROXI system prefers to create code in card format; that is, with line numbers. The alternative is CRT format (without line numbers).

Cardinality--The number of tuples in a relation (relational model).

Carrier--A tone sent over a communications medium (radio or telephone line) that is acted upon in some way in order to convey information. To place information on a carrier is called modulation; to read the information from a carrier is called demodulation.

Catalog--Analogous to Directory. (1) A file kept by a large computer system that serves as a comprehensive index to all files known to the system. It shows the name, location, and attributes of every file. The operating system usually provides utility programs to maintain the catalog. (2) To record a file in a catalog.

Central Processing Unit--See CPU.

Centralization--An orientation of data usage and control in a given data processing environment, wherein systems are directed toward central management
rather than individual user groups. An MIS is heavily centralized; database structures and systems can also be centralized. Cenrtralization refers to the sharing of a central computer resource to minimize costs.

CEO--Acronym for Comprehensive Electronic Office. Data General's term for automated office software, including word processing, electronic mail, calendar, filing, and several other functions.

Chain--A linked list in which the last record contains a pointer to the first record in the list.

Change Methods--The way in which an operator may alter an entry field. The

REPLACEMENT method requires the operator to enter a new value. The EDIT method allows the operator to modify an existing value character by character. The NO-CHANGE method prevents the operator from modifying the displayed value.

Character--(1) One symbol of a set of elemenmtary symbols such as those corresponding to the keys on a console. The symbols usually indicate the decimal digits 0--9, letters A--Z and a--z, punctuation marks, operation symbols, and any other single symbols which a computer may read, store, or write. (2) The electrical, magnetic, or mechanical profile used to represent a character in a computer and its various storage and peripheral devices. A character may be represented by a group of other elementary marks, such as bits or pulses.

Character Code--A combination of 8 bits that represent a character in a character set.

Character Device--A device that performs I/O in byte units. CRT consoles and hard-copy terminals are typical character devices.

Character Insert--Slipping a character between two others. When a word processor does this, it may also rearrange the line to accept the addition. Compare with Line Insert.

Character Set--A collection of characters grouped together for a special purpose, such as English, French, Graphics, and Gothic.

Chart--A graphical representation of query data values in the form of a pie, a bar group, or a line that PRESENT plots along an X and Y axis.

Checkpoint--A logging of the entire machine state at a given point so that recovery is possible from that point.

Child--A data record that can only be created based upon the contents of one or more other records (parents) already in existance.

Chip--See Integrated Circuit (IC).

Clause--A subcommand that you include in a PRESENT command to further specify that command's function. A clause consists of a reserved PRESENT keyword followed by one or more arguments.

Clear--(verb) To restore a storage or memory device to the zero state.

CLI--Acronym for Command Line Interpreter. A system utility program whose commands allow interactive users to maintain files, access all other utility programs, and do many other things. The CLI replaces the JCL facility in batch-oriented systems.

Clock--(1) A master timing device used to provide the basic sequencing pulses for the operation of a synchronous computer. (2) A register which automatically records the progress of real time, or perhaps some approximation to it, records the number of operations performed, and whose contents are available to a computer program.

Close--To close a file means to finish (at least temporarily) any processing associated with it.

CMOS--(Pronounced "see-moss") Acronym for Complementary Metal Oxide Semiconductor. A method for making silicon chips.

COBOL--Acronym for COmmon Business Oriented Language. COBOL instructs the computer in English-like sentences. Programs are easy to read, but require a lot of space. COBOL is a standardized language; it is the same no matter what computer uses it.

CODASYL--Acronym for Conference On Data SYstem Languages. An organization that produces specifications for data processing software suitable for standardization.

Code--(1) A system of symbols for meaningful communication. (2) A system of symbols for representing data or instructions in a computer or a tabulating machine. (3) To translate the program for the solution of a problem on a given computer into a sequence of machine language or psuedo instructions and addresses acceptable to that computer. (4) A machine language program.

Coincidence Gate--A circuit with the ability to produce an output which is dependant upon a specified type of, or the coincident nature of, the input; e.g., an AND gate has an output pulse when there are pulses in time coincidence at all inputs; an OR gate has an output when any one or any combination of input pulses occur in time coincidence. Any gate may contain a number of INHIBITs, in which there is no output under any condition of input if there is time coincidence of an INHIBIT or EXCEPT signal.

Collate--To bring together information from two or more sources and put it into some kind of order. The term usually refers to the physical combining and sorting of cards or printed output. When a similar process is performed upon files, it is called Merging.

Column--In positional notation, a position corresponding to a given power of the radix. A digit located in any particular column is a coefficient of a corresponding power of the radix.

Column 999--A nonprinting field used in Report Writer and Form Printing Programs to perform calculations.

Command--An instruction to perform a specific sequence of computer operations. Unlike statements, commands are executed as soon as you type themn. Compiler languages, such as PL/I, consist of statements. In contrast, interpretive languages such as CLI are made up of both statements and commands. The CLI commands become statements when they are used in macros. All D410/460 terminal operations are controlled with the defined in the Programming Chapter of the Dasher Display Terminal User's Manual.

Command-driven Software--Word processing software is said to be command-driven if the user must key in commands for every task. Command-driven software is faster than menu-driven software, because there is no waiting for a menu to

appear.

Command Line--A set of directives that invokes LINK or LFE and names the object modules and/or libraries the utility will process.

Comment--A statement included in a source program for information only. Comments are used to explain what the program is doing so that someone can later understand it without having to decipher the code.

Comparator--(1) A device for comparing two different transcriptions of the same information to verify the accuracy of transcription, storage, arithmetic operation or other processes, in which a signal is given dependant upon some relation between two items, i.e., one item is larger than, smaller than, or equal to the other. (2) A form of verifier.

Compile--To produce a machine language routine from a routine written in source language by selecting appropriate subroutines from a subroutine library, as directed by the instructions or other symbols of the original routine, supplying the linkage which combines the subroutines into a workable routine and translating the subroutines and linkage into machine language. The compiled routine is then ready to be loaded into storage and run; i.e., the compiler does not actually run the routine it produces.

Compiler--A computer program more powerful than an assembler. In addition to its translating function which is generally the same process as that used in an
assembler it is able to replace certain items of input with series of instructions, usually called subroutines. Thus, where an assembler translates
item for item, and produces as output the same number of instructions or constants which were put into it, a compiler will do more than this. The program which results from compiling is a translated and expanded version of the original.

Component--A data item in a given tuple (relational model).

Compression--The shortening of data for storage (e.g., by elimninating repeating characters).

Computed Variable--A variable that you specify in a query with a COMPUTE command.

Computer--A machine that accepts information, applies procedures defined by a program of instructions furnished in advance, and supplies the results of those
procedures.

Concatenate--To connect together two or more physical files so that they are treated as one logical file.

Concurrent Access--Simultaneous access to a data base by two or more application programs.

Conditional Branch--An instruction that causes execution to jump elsewhere in

the program if a certain condition is encountered as a result of a
comparison.

Conditional Field--Part of a print line. The PROXI system allows you to
specify a field to be conditionally included on the next print line.

Conditional Hyphen--See Ghost Hyphen.

Conditional Printing--A feature of Report Writer and Form Printing Programs
that allows the programmer to specify from 1 to 99 logical tests to be
performed   to determine whether or not to print a line. Conditional
printing may govern detail, total, top of form, and page break lines.

Configure--To configure a program means to change some program parameters to
reflect the equipment used. One program can be used on several combinations
of
terminals, printers, and other devices.

Connect--The privilege that allows programs to add a member record to a set
type.

Connect Time--The total period of time during a transmission when an open
communications path exists between two points, whether it is actually in   use
or not.

Connection Table--A table in which AOS/VS writes an entry to manage exchanges
between customers and servers.

Console--Any device that allows manual input into the computer and visual
and/or audio output from the computer. Display terminals, card punchers and
readers, and the front panel of the computer (if it has toggle switches and
lights) are all examples of consoles. In general, when we use the term
Console, we mean the front panel of the computer. We will refer to other
types
of consoles as terminals.

Constant--A value in a computer program that does not change.

Constrained Allocation--A resource-allocation strategy that specifies all the
resource a process will need, but does not prevent execution unless a
deadlock occurs.

Content-Addressable Store--A storage device supporting access to data on the
basis of data value rather than strictly by location.

Contiguous Allocation--An allocation method that assigns physically adjacent
sectors to a file.

Continuation Line--A CLI command line that spans more than one line. The
maximum length of a line is 128 characters, or 76 characters if SCREENEDIT   is
on.

Control Break Field--For Report Writer and Form Printing Programs you can
specify one or more control break fields. When the value of this field

changes as the next record is read, a control break occurs generating one or more levels of totaling.

Control Character--Any character whose ASCII octal value is between 0 and 37. Enter control characters into the computer by pressing the CTRL key and another key at the same time.

Control Point Directory--A directory in an LD that contains two variables: CS, the amount of space currently allocated; and MS, the maximum amount of space available in the directory. CPDs allow you to control the system's disk space allocation.

Control Sequence--A CTRL-C followed by any control character. See Control Character.

Copy File--A file containing COBOL source code. This code becomes part of a program through the use of a copy statement. The code in the file replaces the COPY statement in the program. This feature allows many programs to use the same set of code without duplication.

Control System--See Database Control System.

Coordinate File--In a DMS, a related file (usually indexed-sequential) to which access can be effected automatically during the pass of a master file.

Corporate Database--A database characterized by a high degree of integration in data structuring, and a high degree of centralization in usage and administration.

Counter--A memory location set up and maintained by a program for the purpose of counting certain occurences.

CPD--Acronym for Control Point Directory. See.

CPU--Acronym for Central Processing Unit. A CPU consists of two functional areas, the arithmetic logic unit (ALU),and the control section (CS), both of which are inextricably linked with internal memory. It is through the interaction of the CPU's two major components and the memory that all work within a computer is done.

Critical Region--A procedure or database shared by all tasks, but available to only one task at a time.

Cross-Linking--Using AOS/VS LINK to create a program file for execution under the AOS, RDOS, or RTOS operating systems.

CRT--Acronym for Cathode Ray Tube. Any video display terminal associated with a computer.

CRT Format--Source code generated without line numbers. The alternative is card format, which includes line numbers.

Cryogenics--The field of technology in which devices utilizing properties assumed by metals at absolute zero are used. At these temperatures large current changes can be obtained by relatively small magnetic field changes.

CS--Acronym for Current Space. The amount of space currently allocated in a CPD. See Control Point Directory.

CS&T--Acronym for Computer Systems & Technology. The Washington (D.C.) staff section responsible for computer hardware, FLIPS, telecommunications, and software support.

CTRL Key--A key on the console keyboard that, by itself, does nothing but used with other characters does a lot.

CTRL Sequence--Used for screen editing, cursor control, and to control system action.

Currency--Refers to the methods for determining the record or set occurrences that have been most recently accessed.

Current of Record--The most recently accessed record occurrence within a record type. A system cursor automatically keeps track of this position.

Current of Set--The most recently accessed owner or member record occurrence within the most recently accessed occurrence of a set type. A system cursor points to this position.

Cursor--(1) On a display terminal screen, the cursor indicates the current position on a line. It is either a box superimposed on a character position, a blinking box, a blinking underscore beneath a character position, or invisible. (2) Pointers into the database that act as bookmarks: saving your place within the database. See System Cursors and Free Cursors.

Cybernetics--The field of technology involved in the comparative study of the control and intracommunication of information handling machines and nervous systems of animals and man in order to understand and improve communication.

Cycle--A data structure resulting from the definition of a series of set types such that the owner record type of every set type is a member of the previous set type.

Daisywheel--A type of print mechanism in which a wheel with character images spins in front of the paper, and when the character to be printed is in the proper position a hammer drives the slug against the paper. Used in high quality (Letter Quality) printers.

Data--Any information the computer processes or stores. An important distinction exists between an instruction to the computer and data the computer processes. A computer distinguishes between data and instructions entirely by context. One missing piece of information can cause strange results.

Data Aggregate--A named collection of data items within a record, e.g., a repeating group.

Data Base--See Database.

Data Definition Facility--See DDF.

Data Description Language--See DDL.

Data Dictionary--A list of data names and their pictures. The Program Generator builds the Data Dictionary using information entered in the .SL and .FD files. A software facility that maintains data on the informational content of a database. It often provides utility services, such as record description, to the user. A data dictionary feature is sometimes integrated within the DBMS; it is especially useful for the control and development of an operational database environment.

Data Dictionary System--A program or group of programs used for implementing a computerized data dictionary.

Data Directory--A term sometimes used to refer to that part of the data dictionary which is used directly by the DBMS.

Data Element--A conceptual unit or item of data, stored as a field within a record.

Data File--(1) A file that contains data. Data files are distinct from other types of files because you can both enter and extract information. You can create a data file using the CLI CREATE command with the /I switch, or by using a text editor. To examine the contents of a data file, use the CLI command TYPE or the DISPLAY utility. (2) The file that contains the actual data values for a database system.

Data Independence--Separation of the logical structure of data from its physical placement; also separation of structure and access among programs for the same database.

Data Item--A variable that is defined either as a record field or as a Working Storage item.

Data Link Control Character--A synchronization character mutually recognized by sending and receiving BSC stations.

Data Management System--(Acronym is DMS). A system designed as a facility for the reporting of data from a master file in multiple sequences, usually in a single pass. A DMS exhibits some, but not all, of the features of a DBMS and is by comarison, more highly oriented toward retrieval and reporting capabilities. Certain varieties of inverted systems are also classified as Data Management Systems.

Data Manipulation Language--See DML.

Data Model--A conceptual representation of data items: how they are used and how they are interrelated. A data model is converted into a data structure by using a DDL. In the relational model, a data model is the set of all relations, i.e.,of all data stored in the database.

Data Redundancy--A characteristic of traditional file systems in which two or more files have duplicate data.

Data Security--Protecting data from accidental or intentional disclosure to unauthorized persons and unauthorized modifications or destruction.

Data Sensitive Record Type--A record type whose records consist of character strings terminated by one of the default delimiters, NEW LINE,carriage return, null, or form feed, or terminated by a user-defined delimiter.

Data Source--A sequential file, INFOS II file, or DG/DBMS database from which PRESENT extracts data.

Data Structure--The implementation of a data model for computer storage; the data structure is created by using the DDL of a DBMS.

Data Sublanguage--A language used for interrogating and updating a relational database; it usually lacks computational capability (relational model).

Data Submodel--Those relations available to a given user (relational model).

Data Usage Matrix--See Frequency Matrix.

Database--A set of data consisting of at least one file and sufficient for a given purpose in a computer system. A collection of information in a formal form. A pool of data stored according to precise descriptions and shared by many applications.

Database Administrator--See DBA.

Database Controller--A system program that controls all access to a particular database. Specifically, it executes DML commands against a database on behalf of an application program.

Database Control System--That portion of the DBMS which actively supports user access to database files.

Database Definition---|
Database Description--| See Schema.

Database Dump--A backup copy on tape or disc of all of the contents of a database at a given time.

Database Key--A unique identifier for a record occurrence, corresponding to a storage location.

Database Machine--A processor responsible for all or most DBMS functions, which are implemented within the hardware rather than by software.

Database Management System--See DBMS.

Database Monitor--A process that controls the creation of database controller processes (one for each database currently being accessed) and direction of user communication with the proper controller.

Database Procedure--Special computation required for a specific database, e.g., for checking privacy keys.

Daughter Board--An electronic circuit board that is installed as a component of another larger board (Mother Board).

DBA--Acronym for DataBase Administrator--One person (or a group of people) who acts as a custodian of the database system and the related data. The DBA designs and maintains the structure of the database, and oversees the integrity and use of the data.

DBCS--Acronym for DataBase Control System. (See).

DBD--Acronym for DataBase Definition or DataBase Description. See Schema.

DB/DC--Acronym for DataBase and Data Communication. Often with the implication of integrated support.

DBMS--Acronym for Data Base Management System. A usually very complex software system for management of large amounts of data. DG has two such systems; one called DG/DBMS, and one called INFOS II.

DDF--Acronym for Data Definition Facility. The software package that produces the database descriptions used by both the DBMS and all application programs.

DDL--Acronym for Data Description Language. A language with which you describe database structures. DG/DBMS supports two variant languages: one for the schema and one for COBOL subschemas.

Deadlock--A condition that exists when a process is blocked in a state and in all future states that the system can reach. A situation that occurs in concurrent access environments, in which two or more run-units each have

records "locked" that are needed by the other(s). Because no run-unit controls all the records it needs, none can proceed. In general, deadlock can occur for virtually any resource in a shared environment.

Deadly Embrace--A situation in which two processes each unknowingly wait for resources held by the other.

Debug--To detect, trace, or eliminate mistakes in a computer program.

Debugger--A program that allows you to run another program, set breakpoints, stop execution at the breakpoints, and examine and change variables in the program. Debuggers can help you find program errors and understand the details of program execution. There are several debuggers, including SWAT for high-level languages and the assembly language debugger.

Decentralization--Systems oriented toward (and largely controlled by) user groups; with respect to hardware systems, distributed processing represents decentralized usage.

Decimal Tabbing--Automatically adjusting a column of numbers, as they are typed, so that their decimal points are aligned vertically.

Decoder--(1) A device which determines the meaning of a set of signals and initiates a computer operation based thereon. (2) A matrix of switching elements which selects one or more output channels according to the combination of input signals present. Contrasted with Encoder.

Decollator--A mechanical device which bursts multipart computer printouts.

Decrement--The quantity by which a variable is decreased.

Dedicated--A system resource, e.g., a processor, a storage device, a communications line, which is used for only one purpose, such as servicing a single application program, or transmitting data to or from a host computer.

Dedicated Pages--Memory pages that AOS/VS reserves for specific purposes, including physical pages occupied by the resident process.

Default--A value or parameter that a program uses if you do nothing about it. Two examples: The SED text editor displays line numbers by default; if you open a disc file, by default it is opened for both input and output.

Default Value--The default value is the assumed response or entry when only a NEW LINE is entered.

Degree--The number of data items in a tuple (relational model).

Delete Key--A PROXI function key that allows a serially-defined item to be removed from the series. This key operates only during a Change operation.

Delimiter--A character, or series of characters, that denotes the end of a command line. The CLI recognizes the following five characters as valid delimiters: The NEW LINE key, the CR (carriage return) key, form feed (CTRL-L), end-of-file (CTRL-D), and null (ASCII 0). Some of the D410/460

commands require delimiter characters to mark their end.

Demand Paging--The AOS/VS technique of moving pages in and out of a process's working set as that process references and ceases to reference them.

Demand Processing--A computing technique in which numerous terminal users can utilize a central computer concurrently. It is sometimes called interactive computing or timesharing.

Demodulate--To convert voicelike tones received from a phone line into digital bits for input to a machine. The opposite process is called modulation. Forms
the basis for most data communications. See Carrier.

Dependent Variable--One of two variables that you must specify to produce a chart. PRESENT charts a value of this variable for each value of a second, independent variable. PRESENT always charts the dependent variable on the Y axis of the chart.

DEPNET--Acronym for DEPartment NETwork. The USDA data communications service contracted with Telenet company which is the primary source for data communications between USDA administrative sites.

Dequeue--The selection of an item for a queue (a prioritized list of things to be done).

Descender--The below-the-line tail of letters such as g and y.

Descriptor--A term often used in an inverted DBMS to denote an inverted field.

Detail Field--One of up to 99 fields within a detail line. This field may represent a literal, a nonprinting field for computation, or a data-item value.

Detail Print Line--One of up to 9 lines that appear in Report Writer and Form Printing Programs for each processed record of the principal data file.

Determinant--An attribute or set of attributes on which the values of one or more other attributes depend (relational model).

Device--A hardware peripheral component; each type of device has unique operating characteristics. Devices are either character-oriented (send or receive single bytes of data) or block-oriented (send or receive data in multibyte blocks).

Device Assignments--The relationship of the logical devices to the physical devices used in a computer system.

Device Independence--(1) Support for hardware devices apart from application programs (e.g., within the DBMS). In database systems, device independence implies that the database can be moved between storage devices without impact on the application systems. (2) The ability of a process to communicate with a device without regard to the unique nature of the device.

Device Media Control Language--See DMCL.

DG--Acronym for Data General. The company, located in Massachusetts, which was awarded the Forest Service FLIPS contract.

DG/DBMS--Acronym for Data General's Data Base Management System.

Dictionary--Software for proofreading or verifying spelling. The software may be an electronic version of a printed dictionary, i.e., a list of words, or it may be an algorithm for building words from roots, prefixes and suffixes. In either case, it uses its list or algorithm to check the   spelling of words in
a text file.

Digit--One of a set of characters used as coefficients or powers of the radix in the positional notation of numbers.

Digital--Refers to the representation of information using binary numbers to symbolize characters or values. The vast majority of computers are digital machines because they can only work with infornation in a binary formnat.

Digitizer--A device which converts visual information, usually from a map, into digital format so that it may be processed by a computer.

DIP--Acronym for Dual In-line Package. It is the most common container for an integrated circuit. DIPs have two parallel rows of pins, spaced on one tenth
of an inch centers. DIPs usually come in 14-, 16-, 18-, 20-, 24-,   and 40-pin
configurations.

Direct Access Method--An access method wherein record keys correspond one to one to physical locations in storage. The location of a given record can be uniquely derived from its key.

      them. Directories are connected in a hierarchy resembling an inverted tree, with lower directories inferior to higher directories. Each   directory contains an entry for any directory immediately inferior to it.

Directory Entry--A unit of information contained in a directory; a directory can contain multiple entries. A common type of entry is that which lists certain information about a file in the directory. Examples of other types of entries are IPC entries and links. See File Status.

Directory File--A special type of file that catalogs information about subroutine files. You cannot store data in directories but use them to organize a hierarchical file structure.

Directory Tree--A file structure represented hierarchically as a tree.

Disassembler--A program which converts the opcodes of machine language to the mnemonics of assembly language.

Disc, Magnetic--A storage device on which information is recorded on the

magnetizable surface of a rotating disc. A magnetic disc storage system is a array of such devices, with associated reading and writing heads which are mounted on movable arms.

Disc Address--The location of a block on a disc. See Disc Block.

Disc Block--The smallest allocatable unit of disc memory, standardized as 512 bytes.

Disc Controller--A mechanism that directs the operator of one or more disc units. A program can direct the operation of a disc controller.

Disc Controller Name--The name of a disc controller, consisting of three letters and possibly one decimal digit; for example, DPE and DPE1.

Disc Drive--See Disc Unit.

Disc Unit--A mechanism that physically reads from and writes to disc.

Disc Unit Name--The name of a disc unit, consisting of the name of a disc controller followed by a decimal digit; for example, DPE0 and DPE10.

Disconnect--The access privilege that allows programs to remove a member record occurrence from a set occurrence.

Discretionary Hyphen--See Ghost Hyphen.

Disk--See Disc.

Displacement--The position of a data word relative to the object block's data as a whole.

Display--As a noun: Any sort of output device for a computer, usually a video screen. As a verb: To place information on such a device.

Display Field--A type of field specified in a screen format. This field displays a value after the program processes an entry made by the operator.

Distributed Database--A database organization wherein usage is largely decentralized and portions of the overall database are supported at individual user locations, presumably by intercommunicating (distributed) processors.

Distributed Processing--A hardware configuration in which a large centralized computer is augmented or replaced by two or more smaller machines, presumably intercommunicating and typically located near the site of the actual data usage.

Ditem--A term used by PRESENT to represent a record, group, data item, aggregate, computed variable, or translated data value.

Division--In a COBOL program, there are 4 required divisions, or parts, called

'Identification', 'Environment', 'Data', and 'Procedure' divisions, with rules governing the contents of each.

.DL (Debugger Lines) File--An output file LINK creates to store information for eventual high-level language debugging; built when the object module(s) contains one or more debugger lines blocks and the command line includes the /DEBUG function switch.

DMA--Acronym for Direct Memory Access. DMA bypasses the CPU and information goes directly to and from memory. While the disc drives perform a DMA transfer, the CPU simply waits for the process to be completed. Normally, information must pass through the CPU while traveling from disc to computer memory or vice versa. DMA transfers are generally faster than if the CPU were involved.

DMCL--Acronym for Device Media Control Language. The symbolic entries used to map a data structure onto physical devices. The DMCL may also control buffering, paging, overflow, etc.

DML--Acronym for Data Manipulation Language. Extensions to a programming language that allow you to store and manipulate data in a database.

DMS--Acronym for Data Management System. (See).

DO Loop--In FORTRAN, a loop (a sequence of instructions repeated some number of times) begins with the statement 'DO'. The term 'DO loop' has become a generic name for any loop whose iterations (repetitions) are counted.

Documentation--Documentation includes all written information about a piece of computer equipment or software. Computer system manuals are documentation.

Domain--The set of all possible values for a data item type from which attributes are chosen (relational model).

Dormant State--One of four task states, in which a task exists that has not yet been initiated (made known to the operating system) or that has terminated execution.

Dot-Matrix Character Formation--A technique for forming character images by the use of dots. The area a character can occupy is called a cell and it consists of a matrix (array) of some predetermined number of dots arranged in rows and columns. A 5x7 dot-matrix cell has five vertical columns and seven horizontal rows of dots. A 7x9 dot-matrix has better resolution than   a 5x7. These two are the most common resolution. Dot-matrix character formation is most often used on CRT screens and on highspeed printers. The characters for the D410/460 terminal are all formed in a rectangular pattern that is 10 dots wide and 12 dots high (normal character spacing) or   12 dots wide and 12 dots high (compressed character spacing).

DOT--(.).

Double Connection--A connection in which each process can act as either the

customer or the server of the other, depending on the action to be performed.

Download--The process whereby data is transmitted from a host device and retained in a receiving device. For the D410/460 terminal, the custom character definitions can be transmitted from the host computer and retained in the terminal.

DPS--Acronym for Distributed Processing System. A decentralized computer system such as FLIPS, with computers at different locations linked together.

Driver--A piece of hardware or software that controls other activities.

.DS File--(1) A copy file containing Declaratives Section source code for a particular data file. (2) (Debugger Symbols): An output file LINK creates to store information for eventual high-level language debugging; built when the object module(s) contains one or more debugger symbols blocks and the command line includes the /DEBUG function switch.

Dumb Terminal--A terminal which can be used to interact with a computer, but is not, in itself, a computer, because it lacks a CPU.

Dummy Argument--A variable that represents an actual or potential argument. See Chapter 5 of the CLI manual for a complete description of dummy argument descriptions and their uses in macros.

Dump--A transfer of information from one piece of equipment to another. Usually from computer to printer.

Dump-Restore--A "roll-forward" of a database dump.

Duplex--In communications, the ability to send and receive simultaneously over the same line.

Dynamic Allocation--The reassignment of peripherals within a given program.

Dynamic File Allocation--Managfng disc space in such a way so that if files are deleted or altered, disc space is automatically allocated and recovered without having to repack the information on the disc.

Dynamic Record Type--A record type in which you specify the record length when you read or write.

Dynamic Relocation--The act of assigning absolute memory addresses when a program is loaded into memory.

EBCDIC (Pronounced 'Eb-si-dik')--Acronym for Extended Binary Coded Decimal Interchange Code. An 8-bit code for representing alphanumeric information within a computer. EBCDIC is most widely used in large computer systems.

Echo--The output of what has just been input. When you type on a keyboard, for instance, the characters are echoed on your video display or printer.

Edit Mode--One of the operational modes of the Text Editor which is used to modify existing test.

Editor--A program which creates and edits text files.

EDP--Acronym for Electronic Data Processing.

EIA--Acronym for Electronic Industries Association. An organization that establishes standards for electronic equipment.

Electronic Mail--General term for sending messages electronically; for example, computer to computer, commercial radio & television, radiotelegraphy (RTTY), between two word processors, etc.

Element--A unique name given to a set of data stored as a separate unit within a program file.

Eligible Process--A process that has been allocated main memory, which allows it to compete for control of the CPU with other such processes, based on its process type and its priority. (This is one of three process states.)

Empty Set--A set that has an owner record occurrence but no member record occurrences.

Emulate--When one device behaves like another type of device, it is said to emulate it.

Enable--The application of a pulse that prepares a circuit for some subsequent action.

Encoder--A device capable of translating from one method of expression to another, e.g., translating a message from ASCII to Binary.

Encoding--Converting data by the use of a "code," or a coded "character set" in such a manner that reconversion to the original form is possible. "Encode" is sometimes loosely used when complete reconversion is not possible.

Encryption--See Encoding.

End User--A person in an organization who uses data to meet organizational responsibilities. An end user is typically without data processing skills.

End-User Facility--A system that facilitates the use of computerized systems, such as a DBMS. A Query language is an end-user facility.

Enqueue--To place in a queue (a prioritized list of things to do).

.ENT--A psuedo-op which defines a symbol as an external entry.

Entity--Something within an organization or its environment that is relatively stable and about which information can be collected (e.g., employees, customers, or orders).

Entity Class--A grouping of all like entities (e.g.. employees as personnel.)

.ENTO--Overlay entry symbol. Defines overlay area and overlay number.

Entry--See Record; also used to refer to a DDL statement.

Entry Field--A field in a screen format which accepts an entry from the program operator.

Entry Point--The beginning point of a subroutine or sub-program. Any record or segment available to the first access of the database.

Entry Point Access Method--An access method for entry point records.

Entry Sequence Number--A numeric prefix to a prompt, indicating the place it holds in the sequence of entries. A numbered prompt automatically assigns a sequence number to an entry field. When creating a screen format you may explicitly assign a sequence number to a field.

Entry Symbol--A symbol defined in, and used by, a single object module (e.g.,.ENT, .PENT, .ENTO, and .SOENT symbols).

Environment--Each user process has a number of attributes such as search list, level, prompt, etc. Collectively, these attributes define the environment of the process. An environment governs its subordinate systems and programs. See chapter 4 of the CLI manual.

EOF--Acronym for End Of File.

EOR--Acronym for End Of Record.

Erase--(1) To replace all the binary digits in a device with binary zeros. (2) The access privilege that allows you to delete a record occurrence from the database.

Ergonomics--Human Factors Engineering as applied to the design of data processing hardware and software. Similar in concept to user friendliness.

Error Code--A 32-bit unsigned value that AOS/VS returns in AC0 to indicate an exceptional condition. (this exceptional condition may or may not indicate an actual error.) Each error code has a text string associated with it. (See the description of the ?ERMSG system call in the Programmer's Manual, VOL

1, 'System Concepts', for information on getting the text string associated
with a particular error code.)

Error File--An output file LINK creates to record object module or command file errors and LINK-generated messages (i.e., the .PR file creation message); produced unconditionally, even if there are no errors.

Escape (ESC) Key--This key allows you to clear your entries to the current screen and return to the initial state (blank, if you are working with a new screen, or the previous entries if you are exchanging a screen).

Exceptional Condition Code--See Error Code.

Exclusive OR--A binary function whose value is "off" only if all of its inputs are "off", or all of its inputs are "on".

Executable File--A binary memory-image file that you can read into main memory from a peripheral storage device for execution; a program that can run.

Executable Task--A task that has control of the CPU. Only one task at a time can be executing. (This is one of four task states.)

Execute--To perform the intention of a command or instruction. Also, to run a program or a portion of a program.

Execution Time--The portion of an instruction cycle during which the actual work is performed or operation executed. The time required to decode and perform an instruction.

Executive--An operating system routine responsible for decision making.

Extended Monitored Mode--A means of keeping more that one record in a monitored mode.

Extended Relocation Entry--A portion of an object block generated by the language processor; allows LINK to define a block's relocation value, if that value is greater than 32K; contains larger relocation base/relocation operation fields than a standard relocation entry.

Extension--A portion of a file name, usually between 1 and 3 characters in length which appends the file name, preceeded by a dot (.), used to define the type of file.

External Symbol--A symbol declared in, and defined by, one object module, but referenced in one or more other modules (e.g., .EXTS symbol).

.EXTS--Suppressed external symbol. See "External Symbols Block", Chapter 4 of the AOS/VS Link and Library File Editor (LFE) User's Manual.

Facsimile--A technology of scanning visual documents and photographs and reducing the images to digital form, then transmitting them over a communications facility and reconstructing identical images at the   receiving end. Abbreviated Fax.

Father Process--A process that has created another process. Father processes, also called parent processes, are said to be superior to their son processes. A father process can assign priviledges to a son process.

FCCC--Acronym for Fort Collins Computer Center. The USDA centralized computer center located at Fort Collins, Colorado.

FCU--Acronym for Forms Control Utility. See Form Name.

.FD File--A source code copy file that contains file descriptor entries for a particular data file.

Field--One item of information among several that comprise a record. For example, if a record contains name, address, and telephone number, each of these items is a field. Data within a computer are organized into the following hierarchy:

> Several bits form a character.
> Several characters form a field.
> Several fields form a record.
> Several records form a file.
> Several files form a library.

A field is the smallest complete item of data.

Field Validation--One or more logical tests to be performed on an operator entry to determine whether or not to accept the entry value.

File--A collection of information stored as a unit, under a filename. Some device filenames are rigidly defined (e.g., @MTB0:0 for tape, @LPT for the lineprinter queue, @CONSOLE for the console); but disc filenames are flexible.

File Element--The basic unit of storage in the AOS/VS disc file organization. Each file element consists of one or more contiguous blocks. You specify file element size when a file is first created. If a file grows, it grows   in units of the file element size.

File, Generic--A category of files some of whose names you can set with CLI commands. For example, the generic LISTFILE can be set to @CONSOLE or a   disc file.

File Inquiry Program--A PROXI program type that allows the operator to examine one or more records in a principal data file.

File Maintenance Program--A PROXI program type that allows the operator to select from four operations to a principal data file: add a record,

change/display a recprd, delete a record, print the file's contents.

File Management System--The part of an operating system that controls the organization and allocation of disc files, which might consist of one or more disc sectors.

File Status--A collection of information about each file. This information includes the file size, time of creation, and other details.

File System--See Hierarchical File System.

Filename--The name of a file. Every file is given a name when it is created, either by you, or by the system. You can change the name of a file with the CLI command RENAME. The filename can be alphanumeric. All filenames in a single directory must be unique, and each can contain no more than 31 characters.

Filename, Generic--Filenames that the operating system automatically takes input from, and sends output to, for various commands and utilities. AOS/VS has these generic files: @CONSOLE, @INPUT, @OUTPUT, @LIST, @DATA, and @NULL. You can get these generic filenames to represent different files.

Fill Pattern--The design that PRESENT displays within a section in a pie chart or a bar group in a multiple-bar chart. PRESENT identifies the variable values that the fill patterns represent in a legend to the right of the chart.

Finished Key--The PROXI function key that signals completion of a screen format or an operation. The FINISHED key, when used at a data-entry screen, cancels a serial-definition process or returns you to the next higher level.

Firmware--A program that has been permanently recorded in a PROM (acronym for Programmable Read-Only Memory) and is thus essentially a piece of hardware that does software functions. Also called Microcode.

First Independent Variable--See Independent Variable.

Fixed--A type of data item that represents a decimal integer quantity or one with a fixed number of fractional digits.

Fixed Length Record Type--A record type in which you specify a predefined, common record length.

Flag--A bit, or sometimes a character, set to a value to indicate some condition.

Flat File--A single-level record array with only one record type; a relation in normal form.

Flip-Flop--(1) A bi-stable device; i.e., a device capable of assuming two stable states. (2) a bi-stable device which may assume a given stable state depending on the pulse of history of one or more input points and having one

or more output points. The device is capable of storing a bit of information. (3) A control device for opening or closing gates, i.e., a toggle.

FLIPS--Acronym for Forest Level Information Processing System. The Forest Service's distributed processing system of interconnected DG computers.

Flowchart--A graphic representation of the major steps of work in a porocess. The illustrative symbols may represent documents, machines, or actions taken during the process. The area of concentration is on where or who does what rather than how it is to be done.

Font--The shape, style and size of type. Fonts are designed and published as graphic art is; their use is often licensed. They are reproduced by typesetting machines. Famous type fonts in newspaper publishing are Bodoni and Gothic. Typewriters and automatic printers commonly use Courier or Letter Gothic fonts.

Forced Load Flag--A bit in an object module that, when set, directs LINK to load that module into the program file unconditionally.

Foreign Key--In a relation, one or more data item types whose values correspond to those of a candidate key in another relation (relational model).

Form Name--The name of a file in the :UTIL:FORMS directory, which was created with the CLI Forms Control Utility (FCU). The form name must contain from 1 through 31 legal filename characters.

Form Printing Program--A PROXI program that generates forms using a principal data file.

Format--Arrangement of information into some specified order.

Format Field--A field that displays a data item value as the screen is displayed. This field does not depend on any operator entry as does a display field.

Formatter--A program that controls the output image of a text file and normally can page, justify, and otherwise image the output.

FORPLAN--Acronym for FORest PLANning model. The linear programming model at FCCC which is used to analyze alternatives in the Forest planning process.

FORTRAN--Acronym for FORmula TRANslation. A high-level programming language primarily used for scientific applications.

Free Cursors--Currency pointers into the database that you declare and maintain in your program.

Free Cursor Array--A collection of free cursors used to preserve a collection of record positions.

Free Format--A method of entering data into a computer program wherein the individual data items are separated by commas.

Frequency Matrix--A mapping of data elements by usage requirements, often as a means of spotting associations and potential keys; a tool in database design.

Front-End Processor--Hardware, often in the form of a minicomputer, that is dedicated to the communications function in a large processing environment.

Full Duplex--A mode of serial data communication which takes place between two points in both directions simultaneously.

Full Inversion--A method of inversion in which all record fields are inverted so that the record as such does not necessarily need to be stored.

Function Keys--Special keys that different programs use to perform various operations.

Function-Letters--Library File Editor (LFE) commands.

Function Switch--A command line switch that modifies the entire linking process. (See Table 2-1 of the LINK & Library File Editor User's Manual   for a
list of the function switches.)

Gate--(1) An electronic switch whose output is determined by the states of two or more inputs. Usually called logic gates. See AND, NAND, NOR, OR, and XOR. (2) An entry point to code in an inner ring.

Get--The access privilege that allows programs to bring the data for a record occurrence into the UWA where further functions can be performed.

Ghost Hyphen--An optional hyphen inserted between the syllables of a word that may have to be hyphenated. Also called a Conditional Hyphen, or Discretionary Hyphen, it is printed only if the word in which it appears occurs at the end of a line and must be broken in order to respect the margin settings. If the word processor has the ability to hyphenate automatically, it will break a word only at those places where a ghost hyphen has been inserted.

GIS--Acronym for Graphic Information System. A software/hardware system which combines computerized mapping and DBMS capabilities to analyze and display spatial information.

Glitch--Usually a minor problem in a piece of equipment or a program that causes an occasional malfunction.

Global Port Number--A number made up of a port's PID, ring number, and local port number, which uniquely identifies that port system-wide.

Global Search and Replace--The process of searching for every occurrence of a particular character, word or phrase and replacing each occurrence with another character, word or phrase. Such an activity usually begins at the beginning of a document, so that no occurrence will be missed.

Golbal Server--A separate process that performs functions on behalf of a customer process. (Global Servers are described in Chapter 8 of the Programmer's Manual.)

Graphics--The production of lines, angles, curves and other non-alphanumeric information by a computer on a video display, a printer, or a plotter.

Group Name--A name given to a specific group of data items within a (COBOL subschema) record type that you wish to treat as a unit.

GTE--Acronym for General Telephone and Electric company.

Half Duplex--On a communications line, the ability to send and receive signals, but not simultaneously.

Handshake-The exchange of predetermined signals between two devices that have just established communications with each other.

Hard Copy--Output on printed paper.

Hardware--Physical equipment used in data processing.

Hashing Algorithm--See Randomizing Algorithm

Head--(1) A place for taking care of one's business. (2) A unit on or very near to a magnetic recording surface that reads, writes, or erases information from the magnetic surface.

Header--A descriptive title that appears over each data field in a report.

Header Line--One of up to nine lines printed at the top of each page of a report or form. These lines contain only literals.

Hex (Hexadecimal)--Refers to a numbering system which counts "0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F", or in math, base 16.

Hierarchical DBMS--A DBMS under which data structuring is characterized by the organization of data into repeating groups under a single root, i.e., by a tree-like data structure.

Hierarchical File System--The inverted tree structure in which AOS/VS organizes files and directories. The highest directory in the hierarchy is the system root, (:), which points to inferior directories; these, in turn, point to inferior directories. Any process with proper privileges can access any file within any directory.

Hierarchical Structure--A data structure in which there can be multiple repeating segments under a given root. A typical COBOL record with one or more "Occurs" is hierarchical. See 'Tree Structure'.

High-Level Language--A language which is more intelligible to humans than it is to machines.

High-Order--The most important, or item with the highest value, of a set of similar items. The high-order bit of a byte is that which has the highest place value. (In a 32-bit word, bits 0 through 15 are the high-order bits.)

High-Order Bit--See High Order.

Histogram--(1) A horizontal bar-chart which can easily be printed on any printer. (2) A data array that provides a global view of CPU activity.

Home--The beginning of the first line on a video display.

HOOK--(?).

Horizontal Pitch--The number of characters per inch which can be printed on a printer or video display.

Host Computer--The computer controlling operation of a device, such as the D410/460 terminal.

Host Language--A computer language, e.g., COBOL, in which the DML for the database access is embedded.

Host Processor--The processor in which database application programs are executed.

HP-9020--The Hewlett-Packard interactive graphics computer system purchased by the Forest Service under the Lot 7 contract.

IAC--Acronym for Intelligent Asynchronous Controller. Allows connection of either 8 or 16 terminals and other asynchronous devices. You can install a number of IACs. Each IAC has its own device code.

IAM--Acronym for Inverted Access Method. See.

IC--Acronym for integrated circuit.

IDML--Acronym for Interactive Data Manipulation Language. See DML.

IEEE--Acronym for Institute of Electrical and Electronics Engineers.

IGS--(1) Ovoids laid by hins. (2) Acronym for Interactive Graphics System. A system which allows the user to build maps, visual displays, graphs, etc. An IGS usually includes both software and hardware, such as a digitizer, plotter, or microprocessor. The HP-9020 is an IGS.

Immovable Resource--Resources that occupy the same memory area throughout the program's execution.

Impure Zero--See Zero.

Inclusive OR--A logical operator which has the property that P or Q is true if P or Q or both is true; when the term OR is used alone, as in OR-gate, the inclusive OR is usually implied.

Independent Variables--
    First Independent Variable--One of two variables that you must specify for   PRESENT to produce a chart. For each value of the independent variable, PRESENT charts a value for a second, dependent variable. PRESENT always charts the first independent variable on the X axis of   the chart.

    Second Independent Variable--A third variable that you must specify   for PRESENT to produce a multiple-bar or multiple-line chart. The   number of values for this variable determines the number of bars in a multiple-bar group and the number of lines on a multiple-line chart.   In a legend to the right of the chart, PRESENT displays the values of   the second independent variable next to the fill patterns or line   styles that represent them.

Index--(1) Under access by inversion, the separate area of storage that contains   organized pointers to the original storage area. (2) A single block that   lists the address of each file element.

Indexed Access Method--A storage structuring of an index whereby key values are paired of a one-to-one basis with record pointers.

Indexed Random Access Method (IRAM)--A type of indexed access in which the order of entries in the index is different from the order (if any) of records in the source area; i.e., the index is organized on a key value that is not used to order the source area.

Indexed Sequential Access Method (ISAM)--A type of indexed access in which the order of the entries in the index matches the order of the records in the source area; i.e., both the index and the source area are sequentially organized on the basis of the same (primary) key.

Ineligible Process--A process that has not been allocated main memory, but in all other ways is ready to run. (This is one of three process states.)

Information Management--A broad term for managing data and information. It is a marriage between data processing management and word processing management.

Information Storage and Retrieval (IS&R)--A traditional type of application (not necessarily computerized) in which access to individual records is characterized by retrieval for information value rather than for production tasks of various types. IS&R applications are often archival in nature, with low update activity relative to retrieval activity. IS&R applications are often associated with a DMS, although a DBMS can also have capabilities in this area.

INFOS II--Data Geneal's database-oriented file management system.

Initial Task--The first task that executes in a process. AOS/VS assigns the initial task TID 1, priority 0.

Initialize--(1) To set all variable information to its starting values. This is usually the first step in a computer program. (2) To erase and format a magnetic recording surface.

Input--As a verb, the process of entering information into the computer. As a noun, input refers to information which has been, is being, or will be entered into the computer.

Input Devices--The computer equipment designed for transferring data and instructions into a computer for processing, e.g., card reader, tape reader, or console keyboard.

Input Mode--One of the operational modes of the Text Editor which accepts all lines entered as if they are text and writes them, as is, to the file or element being edited.

Input/Output (I/O)--A section providing the means of communications between the computer and external equipment or other computers.

INS--Acronym for INformation Systems. The Washington Office staff section responsible for information management and DBMS's.

INSERT Key--A PROXI function key used to insert a serial item into a sequence. This key operates only when changing a program's parameter file.

Instructions:

The Instruction Set--The instruction set is a superset of the previous 16-bit ECLIPSE instruction set. The new 32-bit instructions are referred to as wide instructions. The 16-bit instructions supported by the 32-bit processor, but which are also supported by previous 16-bit ECLIPSE computers, such as the ECLIPSE C/350 computer, are referred to as C/350 instructions.

Wide Instructions--These instructions manipulate data with lengths of 8, 16, or 32 bits. The menmonics of the instructions indicate the size of the data fields referred to. The mnemonic preceded by the letter N manipulates 16-bit (narrow) data; W, 32-bit (wide) data.

There are also mnemonic prefixes that indicate the addressing range of the instruction. X indicates that the instruction has a 512-Mbyte (extended) offset addressing range; L, a 4-Gbyte (long) addressing range.

C/350 Compatibility--The 32-bit processor supports the instruction mnemonics and binary opcodes of most instructions implemented on the ECLIPSE C/350 computer. This means that most programs that execute on the C/350 will also execute on the 32-bit processor without recompiling or reassembling.

Note that the C/350 instructions maintain their limitations of the lower 64-Kbyte addressing range.

Integrated Circuit (IC)--A small (less than the size of a fingernail and about as thin) wafer of material (usually silicon) into which has been etched an electronic circuit. A single circuit can contain from ten to ten thousand discrete electronic components. ICs are usually housed in DIPs (see above) and the term IC is sometimes used to refer to both the circuit and its poackage.

Integration--The elimination of partially overlapping data management schemes and the substitution of a central data structure, e.g., the integration of master files into a database.

Integrity--The accuracy and consistency of data items.

Interactive Command--A PRESENT command that you enter next to the "?" prompt on the PRESENT command line, and from which you get an immediate response.

Interactive Computer Program--A computer program where the user enters data or answers questions as requested by the computer.

Interface--An exchange of information between one component and another, or the mechanisms which make such an exchange possible.

Interleave--To mix real data and control information in a stream of data on a communications path. An interleaved transmission code, for example, inserts check characters into data at predictable intervals to make it easier to find

where an error has occured. It is up to the receiver to   pull the
interleaved
control information out of the data and interpret it.

Interpreter--A program, usually written in machine language, which understands
and interprets a higher level language.

Interprocess Communication Facility--A generalized AOS/VS facility that sends
free-format messages of any length between any two processes. IPC messages
are
sent between ports. See Port.

Interrupt--A request for system service (e.g., termination, I/O request, error
handling, etc.). Interrupts can be either manual (as when you type CTRL-C
CTRL-B) or the system itself can generate an interrupt (as when an error
occurs).

Intersection Data--Those data items that describe the relationship between two
database records.

Inversion--An access technique in which data values from individual records are
segregated into a separate storage area, which points back to the original
area.

Inverted Access Method (IAM)--A storage structuring of an index whereby a given
key value is associated with a pointer array to all similarly valued records.

Inverted DBMS--A DBMS under which storage structuring is characterized by a
predominance of data inversion.

Inverted Structure--A storage structure that supports inversion.

I/O Device--See Input/Output.

IPC--Acronym for Interprocess Communication Facility. See.

IRAM--Acronym for Indexed Random Access Method. See.

IS&R--Acronym for Information Storage & Retrieval. See.

ISAM--Acronym for Indexed Sequential Access Method. See.

ISM--Acronym for Information Systems Management. A group within MS, formerly
called Data Management. This group is responsible for DBMS, TRI, and
directives.

ISO--Acronym for International Standards Organization.

Iteration--One pass through a set of instructions in a program. Several such
passes are called reiterations.

Janitor--DG's term for the software for cleaning out files.

JCL--Acronym for Job-Control Language, used in some systems to direct system operations for users.

Job--The collection of activities needed to accomplish a specified amount of work.

Jobname--A name that identifies a batch job. A jobname must contain from 1 through 31 legal filename characters.

JOD--Acronym for Journal Of Development. See.

Journal--A system file, usually on magnetic tape, wherein an audit trail of changes to the database is kept, largely for the purpose of recovery.

Journal Of Development (JOD)--The official publication of CODASYL proposals for the standardization of languages.

Jump--An instruction that specifies the location of the next instruction and directs the computer. A jump is used to alter the normal sequence control of the computer. Under certain conditions a jump may be contingent upon manual intervention.

Jump, Conditional--An instruction which, if a specified condition or set of conditions is satisfied, is interpreted as an unconditional transfer. If the condition is not satisfied, the instruction causes the computer to   proceed in
its normal sequence of control. A conditional transfer also   includes the testing of the condition.

Jump, Unconditional--An instruction which switches the sequence of control to some specified location.

Justification--The alignment of data within a field, usually to the extreme left or the extreme right. Justification is usually an automatic operation, with alphabetic letters left justified and numerics right justified within the allowable space of the field.

K-Acronym for Kilo, meaning thousand. In computer parlance, 1K equals 1024, the nearest round number in binary to 1000. This leads to a discrepancy in expressing sizeable quantities in terms of K. For example, a memory of 64K actually holds 65,536 bytes.

KBD--Acronym for KeyBoarD.

Kernal--A software product sold with the understanding that it must be modified by the buyer before he or she can use it on a specific machine. It is usually, but not always, accompanied by other programs that facilitate customization.

Key--(1) In reference to a piece of software, any switch or button. (2) In a sort, a field (item) of data evaluated in determining the order into which records are rearranged. Often called a sort key. (3) In the relational model, 'Key' is short for 'Candidate Key'.

Key Field--A field, within a record, that allows the record to be identified or located.

Key Range Selection--A feature that allows the operator to specify a particular range of records on which an operation is to be performed within a data file.

Keyword--A word that PRESENT reserves as a subcommand. A keyword may optionally accept, require, or prohibit arguments.

Keyword Switch--A two-part switch of the following form: /keyword=value. For example, "/L=filename" is a keyword switch.

Kill-Processing Routine--A user-defined routine that guarantees an orderly release of a task's user-related resources.

Kilobyte--1024 bytes.

KTU--Acronym for Key Telephone Unit. Also called a "key system". A small telephone system located on a customer's premise that uses multi-line telephone instruments.

Label--(1) In reference to a file saved on tape or disc, a record indicating the name of the file, its date and time of creation, its attributes, and other control information. Also called a header record. (2) In a computer program, a symbolic name given to an instruction or a part of the program for reference purposes. The language processor translates labels into memory addresses.

LAN--Acronym for Local Area Network; general term for the data communications system which links computers with nearby terminals, printers, etc., within the same building or building complex.

Language Processor--An assembler utility (e.g., MASM), or a high-level language compiler.

Laser Printer--An extremely fast electrostatic printer. As paper travels through the printer, it passes a laser that forms character images in dot matrix patterns as dots of static electricity. A metalic dust then blows across the paper, sticking to the static dots and falling off uncharged areas. A heat process melts the powder, fusing it to the paper to form inked
printing. Laser printers can typically print upwards of 2 miles of paper output per hour.

LATA--Acronym for Local Access and Transport Area. Boundaries established by AT&T defining service areas of divested BOC's.

LD--Acronym for Logical Disc. See.

LED--Acronym for Light Emitting Diode. A solid substance which glows as light passes through it. Often used for indicator lamps because it is more dependable than a light bulb. Also used for numeric displays, in which the images of digits are formed by selectively turning on several of seven long LED's arranged in two cubes, one atop the other.

LEF--Acronym for Load EFfective.

LEF Mode--The CPU state that protects the system's I/O devices from unauthorized access. I/O instructions and LEF instructions use the same bit patterns. AOS/VS determines how to interpret these instructions by checking
the state of LEF mode and the state of I/O mode. (LEF mode and I/O mode are mutually exclusive states.)

Legend--A table that appears to the right of a chart and displays the independent variable values next to the line styles or fill patterns that represent them.

Level--You have a number of potential levels to which you can PUSH or POP. For each level, you can define environment parameters. See Chapter 4 of the CLI

Manual.

Library--(1) A collection of information available to a computer. (2) An index file of magnetic tapes or discs.

Library File--A series of object modules that begin with a library start block and end with a library end block; produced by the Library File Editor utility (LFE).

Line--A sequence of ASCII characters that begins and ends with either
a   NEW LINE, form feed, or null character.

Line Command--Editor functions that act on an entire line of text to add, modify, and delete lines of text.

Line Insert--The opening of a hole in text in order to insert a block of typed material larger that just 1 or 2 characters.

Line Printer--A high-speed printing device accessed by CLI QPRINT commands or by queue name @LPT.

Line Style--The graphical pattern that PRESENT uses to display a line on a line chart. On a multiple-line chart, PRESENT displays each line with a   different line style.

Linear Programming--Solving problems by use of a mathematical model in which all mathematical functions are linear equations (which can be represented on a graph by a straight line). The tern "programming" in this sense is not limited to computer programming; it is a more general term, synonymous with "planning". Linear programming is a powerful tool for solving complex problems on computers, especially those involving the allocation of   resources that are limited by certain constraints. FORPLAN is an example of a linear programming model.

Line file--A special type of file that contains a pathname. When you specify a link pathname in a command, the CLI substitutes the contents of the link (a pathname) for the link filename. You can create links by using the CLI command CREATE with the /LINK switch.

Lines File Directory--A section of the .DL (Debugger Lines) file that describes the memory destination of the data in one or more lines title blocks.

Link Entry--A file that contains a pathname to another file.

Link-To-Link Reference--A link entry that is another link entry.

Linkage Path--A series of one or more records or segments with pointers to other records or segments. Any given set of pointers defines a linkage path.

Linked List--A set of records in which every record contains a pointer to the next record in the list.

List Processing--Operations performed on record lists.

Listing--A printout of source language statements of a program.

Load--To enter information into either the computer or a storage location.

Load Effective Address Mode--See LEF.

Local Root--A single directory that acts as the foundation for a directory structure on a logical disc.

Local Server--a server that shares the same logical address space as its customer. (Local servers can be loaded into the inner rings of your process.)

Locality Of Reference--Clustering instructions and data by writing code in modular pieces.

Lock Out--A condition in which run-units are unable to proceed because of a deadlock or some other circumstance(s) which makes the required resources unavailable.

Locking--A means of preventing harmful interaction between run-units being concurrently executed. Under locking, a record is made unavailable to all run-units except one, which has requested that updates by other run-units be prevented. The record itself is said to be 'locked.'

Log Tape--See Journal.

Logic--(1) The science of dealing with the criteria or formal principles of reasoning and thought. (2) The systematic scheme which defines the interactions of signals in the design of an automatic data processing system. (3) The basic principles and application of truth tables and interconnection between logical elements required for arithmetic computation in a automatic data processing system.

Logic Gate--An electronic switching component that evaluates two or more inputs and produces one output based upon a rule of logic. The inputs are usually bits arriving simultaneously. If the logic rule is OR, the output will produce a 1 bit if any input is a 1. Logic gates are always identified by the rule they operate under. See AND, OR, NAND, NOR, and XOR.

Logical Address Space--The entire range of locations addressed in a program. A process's user-visible logical address space can be up to 512 megabytes for each ring.

Logical Context--The total pages available to you (the user), including shared, unshared, and unused pages.

Logical Disc (LD)--One or more physical disc units that you want to consider as a single logical unit.

Logical Disc Address--The location of a logical block on a logical disc. The address must include a disc pointer and a disc address to access the block.

Logical Disc Name--The filename of a logical disc's root directory.

Loop--A self contained series of instructions in which the last instruction can modify and repeat itself until a terminal condition is reached. The productive
instructions in the loop generally manipulate the operands,   while bookkeeping instructions modify the productive instructions, and keep count
of the number of repetitions.

Lot 7--The Forest Service contract which resulted in purchasing the HP-9020 system.

Low-Level Language--A language that is more intelligible to machines than it is to humans.

Low Order--The least important, or item with the least value, of a set of items. The low order bit in a byte is the bit with the least place value. The
low-order bits in a 32-bit word are bits 16 through 31.

Low-Order Bits--See Low Order.

Lower Page Zero--The memory area extending from location 0 through location 377(8); it is subdivided into two sections:0 through 47(8), for system references, and ZREL (page zero relocatable), locations 50(8) through 377(8).

LRU Chain--LRU is an acronym for Least Recently Used. A list of released shared pages arranged in least recently used order.

Machine Independence--The ability of application systems to migrate between hardware lines.

Machine Language--The lowest level language which a computer understands. Machine languages are usually binary in nature. Instructions in machine language are single byte opcodes sometimes followed by various operands.

Macro--A sequence of instructions or commands that can be called (accessed) by a single name; it may or may not require arguments. Macros are primarily time
savers, allowing people to write a series of directives only once,   then CALL it by one name. Data General has a macroprocessor, MPL, for   high-level languages as well as a macroassembler for assembly language.

Macroassembler--An assembler capable of performing the substitutions of actual assembly language instructions for a symbolic macro instruction.

Macroinstruction--(1) A macro. (2) Any single command or programming instruction that triggers several resulting actions.

Magnetic Tape--A storage medium normally used when large files are involved and are to be retained for an extended period.

Magnitude--The magnitude of a floating point number is defined as follows:
    Mantissa X 16(y), where y is the true value of the exponent.

Main Memory (Physical)--Core or semiconductor storage, which contains computer instructions or data.

Mainframe, Mini, Micro--General terms for computers of descending capacity. Mainframes (such as the Univac at FCCC) usually support many users and programs simultaneously. Minis (such as FLIPS) usually support a lesser number of simultaneous users and devices. Micros (such as the TI990 and various home computers) are usually designed for one user or one device at a time.

Maintenance Menu--The list of four operations that a PROXI file Maintenance Program can perform on the principal data file.

Management Information System--See MIS.

Mandatory--The membership class of a set that indicates that a record cannot exist in the database except as a member of a particular set type, once it has been connected to an occurrence of that set.

Manual--The membership class of a set indicating that a new member record occurrence is not automatically inserted into the set. Insertion of Manual records must be done by a specific CONNECT in an applications program.

Map Files--(Minimap and full map) Listing files LINK produces when the command line includes the /L or /L=filename switch; record the program file's partitions and memory parameters.

Margins--For the D410/460 terminal, the margins define the columns betweeen which the cursor is free to move. The margin settings (column numbers) are programmable and may define a column range running from 1 to 162.

Marker--(1) A symbol that PRESENT displays at the locations of variable values on a line chart. On a multiple-line chart, PRESENT displays a different marker type on each line. (2) In word processing, a non-printing character. When text is to be copied, moved or deleted as a whole, it may have
to be set off in some way so that the word processor can recognize   it. Typically, non-printing characters are placed at the start and at the   end of the block to be manipulated. By seeing the markers on the screen,   the user can verify that the text in between them is the text to be manipulated. The DG word processor dims the area between markers. These   are also called
Block Markers. (3) A marker which is used, in word   processing, to mark a place in the text that the user will want to return   to later. Such a marker is called a Place Marker.

MARS--(1) Acronym for Military Amateur Radio Service. (2) Acronym for Management Attainment Reporting System. It is part of PAMARS.

Mask--A machine word that specifies which parts of another machine word are to be operated upon, thus, the criterion for an external command.

Masking--(1) The process of extracting a non-word group or a field of characters from a word or string of words. (2) The process of setting internal program controls to prevent transfers which otherwise would occur upon setting of internal machine latches.

MASM--Acronym for MacroASseMbler.

Mass Storage System--A peripheral device intended to accomplish the same purpose as a tape library; i.e., to store vast amounts of information, but to make   the information quickly and automatically available. All files under control of the mass storage system are indexed as to location, so they can immediately be found and retrieved.

Massage--(1) A type of parlour. (2) To process data.

Master File--The current generation of a file containing all information relevant to, and thus serving as the central point of reference for, an application system. A master file is usually not shared between applications.

Master LD--A logical disc whose root becomes the system root (:). You must select the master LD.

Matrix--A conceptualized array of numerous items of related information, arranged by rows and columns. Each individual element is indexed by the   use

of subscripts indicating its row and column number.

MCA--Acronym for Multiprocessor Communications Adaptor. See.

Media--A generic term for all surfaces used for recording data in machine readable form, such as disc or tape storage. "Media" is the plural of "medium".

Mega--One million. In conputerese, mega- is the square of kilo- (1024), and therefore actually equals 1,048,576. This is the nearest round number in binary to 1,000,000.

Member--A record type that is linked to an owner record type, forming a set type. A set has zero, one, or more occurrences of member record types.

Membership Class--Refers to the way record occurrences are connected and retained within a set type. See Automatic, Manual, Mandatory, and Optional.

Memory--A term used to refer to any storage media for binary data.

Memory Address--A memory address is a two-byte value which selects a single memory location out of the memory map.

Memory Location--The smallest subdivision of the memory map to which the computer can refer. Each memory location has associated with it a unique address and a certain value.

Memory Map--(1) This term is used to refer to the set of locations which the microprocessor can address directly. It is also used to describe a graphic representation of a system's memory. (2) An image of the program file produced internally between LINK's first and second pass; outlines each partition, its contents and general location.

Menu--In an interactive system, a list of choices from which to choose an action that the program will perform.

Menu-Driven Software--Word processing software is said to be menu-driven if the selection of tasks from menus is the typical way of using it. Menu-driven software, for example, may begin with a choice of creating a new document, editing an existing document, printing a document, or ending the session. Menus may be nested, which means that selecting a particular option on one menu
may generate a new menu. For example, after choosing to print a document, the user may be presented with a new list of choices that will control the way
the document is to be printed.

Merge--To combine two or more files into one. A merge is similar to a sort in that it usually rearranges the data into some predetermined order.

Metadata--Internally used forms of the schema and subschemas for a database. It
describes each record, set, and item, as well as the structure of records, all sets and the relationship of the schema and its subschemas. See DDL.

Microprocessor--An integrated circuit which understands and executes machine language programs.

Midicomputer--A term sometimes used to describe the top of the line of machines offered by minicomputer manufacturers. Midicomputers increasingly support database applications.

MINI--Acronym for MINIcomputer.

Mini-DBMS--A DBMS implemented on a small to meduim-sizee hardware configuration, typically one offered by a minicomputer manufacturer rather than
by a   mainframe manufacturer.

MIS--Acronym for Management Information Systems. (1) The group in the Supervisor's Office which supports all computer-related operations (including
the computer). Formerly DIP--Department of Intuitive Proliferations. (2) (Singular) A computer system oriented toward producing   decision data; i.e.,
data useful to centralized management for   administration, planning, policy formulation, etc. An MIS usually implies   summarization and interpretation of
large amounts of "raw" data.   Corporate-style databases often have potential for MIS.

Mnemonic--Pertaining to the assisting, or intending to assist, human memory; thus a mnemonic term, usually an abbreviation, that is easy to remember; e.g.,
mpy for multiply and acc for accumulator. An acronym is a mnemonic.

MOD--Acronym for MODulo. The remainder after division. Example: 9 MOD 2 returns a value of 1, since 9/2=4, with a remainder of 1.

Mode--(1) A computer system of data representation; e.g., the binary mode. (2) A selected mode of computer operation.

Model, Mathematical--The general characterization of a process, object, or concept, in terms of mathematics, which enables the relatively simple manipulation of variables to be accomplished in order to determine how the process, object, or concept would behave in different situations.

Modem--Acronym for MOdulator/DEModulator. A modem converts data and/or computer instructions into tones and decodes them. Telephone lines carry the modulated signals. Compared to computers, modems are generally very slow devices.

Modify--The access privilege that allows programs to change all or part of a record occurrence.

Modulate--To convert information into a form suitable to be transmitted over a communication facility. See Modem.

Modulo--An arithmetic function with two operands. See MOD.

Modulus--The number of permissable numbers used in a process or system. For example, if only the integers from -15 to +15, inclusive, are considered, 31 is the modulus of this set of numbers.

Monitor--Software or firmware that observes, supervises, controls, and verifies the operation of a system.

Monitored Mode--A method of handling conmcurrent access; in monitored mode, the current record of a run-unit is kept under surveillance by the DBCS. If another run-unit updates the record,. the first run-unit is notified when it attempts an update.

Monochrome--A single color system; for the D410/460 terminal, green is displayed   on black.

Most Significant Digit--The first digit from the left, different from zero.

Mother Board--A printed circuit board into which other printed circuit boards are plugged, for purposes of conducting power and electronic signals among the boards.

Movable Resource--A position-independent resource that the operating system can assign to any location within a general memory range.

MPL--Data General's macroprocessor for COBOL, FORTRAN 77, and PL/I. MPL allows users to insert a series of statements in their sources via a single reference.

MS--(1) Acronym for Management Systems. The staff group at the Director level in the Regional Office with responsibility for information systems planning and support. (2) Acronym for Maximum Space. The maximum amount of space available in a CPD. See Control Point Directory (CPD).

Mt. Hood Map--A computerized grid mapping system, developed on the Mt. Hood N.F., and used by several Forests for Forest planning.

Multi User Operating System--An operating system which can be used by several users simultaneously.

Multiple Level Record Array--A record array in which each record contained at one level of the array can be followed by its own record array; e.g., a COBOL record description with multiple levels of "Occurs".

Multiplexer--An electronic circuit which has many data inputs, a few selector inputs, and one output. A multiplexer connects one of its many data inputs to its output. The data input it chooses to connect to the output is determined by the selector inputs.

Multiprocessing--Support for application systems by two or more processors; the processors themselves are treated as resources for improving overall throughput.

Multiprogramming--Support by an operating system for two or more programs to occupy main memory at the same time, and to share the resources of a single processor.

Multitask System--A system able to support multiple tasks at once, largely by overlapping I/O. The term, multitask, is often used to describe the data communications environment of a database system.

Multithread--Code in a program that is designed to be available for servicing multiple tasks at once, particularly by overlapping I/O. Multithread code must
be reentrant.

MUX--Acronym for MUltipleXer.

MV4000, MV8000--The model numbers of the two DG computers which have been purchased by the Forest Service under the FLIPS contract.

NAND--A logic operation in which two bits or electrical pulses are combined, producing one resulting bit according to the following rules:

$$0 \text{ NAND } 0 \longrightarrow 1$$
$$0 \text{ NAND } 1 \longrightarrow 1$$
$$1 \text{ NAND } 0 \longrightarrow 1$$
$$1 \text{ NAND } 1 \longrightarrow 0$$

Note that this is precisely the opposite of logical AND, hence the term NAND is an acronym for Not AND.

Name--Names (filenames) can be from 1 to 31 characters, including letters, numbers, underscore, period, $, and?. FORTRAN and AOS/VS BASIC symbolic entity names can be from 1 to 32 characters including letters, numbers, and underscore, but must begin with a letter. COBOL names can be from 1 to 32 uppercase letters, numbers, and dash (-). Assembly language symbol names, by default, are unique to only 8 characters and can include letters, numbers, period, $, and ?; they must begin with a letter.

National Systems Review--A comprehensive review of computer systems in the Forest Service which will likely result in major changes in computer management.

Navigational Access--A characteristic of network-like databases and physically linked DBMS in particular, in which the programmer must choose between alternative linkage paths provided within the (network) data structure.

Network DBMS--A DBMS under which data structuring is characterized by the membership of records in sets, as either owners or members.

Network Processing--(1) A system of intercommunicating processors through which distributed processing is supported. (2) A configuration of distributed processing in which every processor communicates directly with all the other processors.

Network Structure--A data structure characterized by the membership of records in sets, as owners and as members.

NEXT RECORD Key--A PROXI function key used only by the program operator to indicate the next sequential record on the principal data file. This key eliminates the need for the operator to enter a key field to identify a data file record.

NFC--Acronym for National Finance Center The USDA centralized office for processing payrolls and all payments; located at New Orleans, Louisiana.

Nibble--See Nybble.

Noncontiguous Allocation--An allocation method that assigns physically nonadjacent sectors to a file.

NOR--A logic operation in which two bits or electrical pulses are combined, producing 1 bit according to the following rules:

                    0 NOR 0 ---> 1
                    0 NOR 1 ---> 0
                    1 NOR 0 ---> 0
                    1 NOR 1 ---> 0

This is the opposite of OR. NOR is an acronym for Not OR. The circuitry that performs this operation is called a NOR gate.

Normalization--A process of altering the format of relations to improve their performance in user operations, especially in updating. A flat file is in normal form; the third normal form is deemed best for relational operations (relational model).

Normalized Format--A nonzero mantissa represents a fraction from 1/16 to 1-2-(56). A floating-point number represented in this way is said to be normalized. Note that impure zero is not in normalized form. Most floating-point instructions require normalized operands if they are to produce correct results. Floating-point numbers that are not normalized or are
not true zero produce undefined results except as noted.

NREL--Acronym for Normal RELocatable. Memory that extends by default from location 400(8) to the extent of memory; subdivided into two sections: short
NREL (400(8) through 32K), and long NREL (400(8) to the highest address in memory).

Null Directory Entry--A directory entry for a file that is empty (contains no information).

Nybble (Nibble)--Colloquial term for half a byte, or four bits. Half a byte is better than starving to death.

Object Block--A block of binary code produced by the language processor as it interprets your source code.

Object Block Header--The first three words in every object block; states the block's type, sequence number (relative to the other object blocks in a module), and length.

Object File--The machine level program produced as the output of an assembly or compile operation.

Object Language--A language that is the output of an automatic coding routine. Usually object language and machine language are the same; however, a series of steps in an automatic coding system may involve the object language of one step serving as the source language for the next step and so forth.

Object Module--An assembled or compiled source module that consists of object blocks; identified by the .OB filename entension.

Occurrences--The actual data values found in a database, or on a storage medium.

Occurs Clause--The part of the DDL that describes the number of values you will allow a given data item in a record type to contain.

Octal Number--A number in a system using 8 symbols, 0,1,...6,7, with 8 as its base.

Off-Line--Descriptive of a system and of the peripheral equipment or devices in a system in which the operation of peripheral equipment is not under the control of the central processing unit.

Office Automation--The deployment of personal consoles as word processors and employee workstations, the use of local area networks for electronic mail, and other such technologies to increase the productivity of office workers.

.OL (Overlay) File--An output file LINK builds to retain a program's overlays (16-bit programs only).

On-Line--Opposite of Off-Line. Information reflecting current activity is introduced into the data processing system as soon as it occurs. Thus, directly in-line with the main flow of transaction processing.

Opcode--Acronym for OPeration CODE. The portion of an assembly language instruction that specifies an action to be taken by the CPU. An opcode is usually a mnemonic and it is sometimes followed by one or mnore operands.

Operand--Information in an instruction or command. An operand may be an argument, a result, a parameter, or an indication of the location of the next instruction, as opposed to the operation code or symbol itself. It may even

be the address portion of an instruction.

Operating System--The programs that decide what parts of the computer will be running at any given time (resource management), and which code will be executed. Most operating systems also contain a number of system calls. See the AOS/VS programmer's manual for more information.

Optional--The membership class of a set indicating that a connected member record can be removed from a set occurrence without being deleted from the database.

OR--A logic operation in which two bits or electrical pulses are combined, producing one resulting bit according to the following rules:

$$0 \text{ OR } 0 ---> 0$$
$$0 \text{ OR } 1 ---> 1$$
$$1 \text{ OR } 0 ---> 1$$
$$1 \text{ OR } 1 ---> 1$$

The effect of OR is exactly the opposite to that of NOR.

Orphan--A single word or group of words that are at the end of a paragraph and that fall on the last line of a page of text. If it is shorter than one-half the line length, it is considered objectionable. Word processors that allow
the user to preview text on the screen prior to printing may be used to eliminate orphans: the margins or the length of a page can be adjusted so that the first line from the next paragraph is added to the page, or the orphan and the line before it can be carried over to the top of the next page.

Output--As a verb, the process of translating information stored in the computer to a form usable to human beings. As a noun, output refers to data generated by computer operations.

Output Device--A piece of equipment used to display, store, or print information from a computer.

Overflow--The condition which arises when the result of a arithmetic operarion exceeds the capacity of the storage space alloted in a digital computer.

Overlapping I/O--A phenomenon occuring in large computer systems as a result of the wide discrepancy between the speeds of a CPU and its peripherals, which is utilized to advantage in enabling a computer to execute several programs simultaneously. If a CPU executes one million instructions a second and a disc
drive takes a tenth of a second on the average to complete a write operation,
the CPU can execute 100,000 instructions while waiting for the disc to finish its job. Thus, during this period, the CPU suspends work on the program that has issued the disc write, and works on another instead. In the course of those 100,000 instructions, it usually encounters another I/O operation, so it initiates that action before the first disc write is done. It now has two overlapping I/O's in progress, with both programs waiting for their completion, so the CPU picks up a third program, and so on. When the first disc write is finished, an interrupt is received at the CPU to signal that

fact, and in due course, the CPU resumes work on the   first program untill it
initiates another I/O or receives another interrupt   from a different I/O.
In
this way, the CPU productively uses the time it   would otherwise waste waiting
for the relatively slow peripherals.

Overlay--A shared or unshared routine the system swaps in and out of memory as
necessary during execution; a type of resource (16-bit programs only).

Overlay Area--A section of the .PR file, the .OL file, or memory reserved for
shared or unshared overlays (16-bit programs only).

Overlay Designators--The characters #!, !, and #!; used in the LINK command
line to designate certain object modules as overlays (16-bit programs only).

Overlaying--The technique of repeatedly using the same blocks of internal
storage during different stages of a program; for example, when one routine is
no longer needed, another routine can replace all or part of it.

Own Code--Programmer-supplied source code that becomes part of the program
framework through a COPY statement.

Owner--(1) The person who creates a file. (2) In a set type, the record type
to which another record type is linked, thus forming a collection of record
occurrences that can be accessed or manipulated.

Pack--To include several short items of information into one machine item or word by utilizing different sets of digits to specify each brief item.

Packed Metadata--See PMD.

Padding--A technique used to fill out a block of information with dummy records.

Page--(1) In text editing, the number of lines between form feed (CTRL-L) characters is a page; the text editors have paginating commands. (2) In terms of computer memory/disc I/O, a page is 2,048 bytes (characters). (3)   A physical division of data in the database; often the actual unit transferred to and from storage.

Page Break Line--A line that is printed on a report when printing reaches the bottom of a page. Usually this involves subotals.

Pagination--The breaking of a printed report into units that correspond to pages is called paginating.

PAMARS--Acronym for Project Accounting and Management Attainment Reporting System. The cost accounting system at the National Finance Center which tracks all payments.

Parallel Interface--A connection between two devices in which all the information exchanged between them is sent simultaneously over separate electrical conductors. Thus, the information bits and the control signals travel along parallel paths.

Parameter--A piece of information that serves to govern the operation of software, establish limits, select options, or otherwise control the   behavior of a computer system or one of its constituent parts. A parameter   is very similar to an operand in that it explains an expected action.   Parameters, however, do not always modify a command in the sense that the   predicate modifies a verb, as do operands. Much of the effort in   installing an operating system involves building an elaborate set of   parameters that establish the "marching orders" for the operating system   and thereby directing how the system will function. In another usage of   the term, when control passes from one part of the program to another, the   routine that is relinquishing control gives the receiving routine   parameters to indicate the location of data that is to be processed and other required information. In general, a parameter is any piece of   information needed for purposes of control. Usually called a "Parm" in   computerese.

A subcommand that allows you to further specify the tasks that a query performs when you execute that query.

Parameter File--A file containing information about a program. This file is used to generate source code.

Parent Process--Same as Father Process.

Parity--The addition of one or more redundant bits to information to verify its accuracy. As as example, in the ASCII code, seven bits are used to represent the value of a character and the eighth bit is for parity. To determine the setting of the parity bit, the seven information bits are scanned and the 1 bits are counted. If even parity is to be used, there must be an even number of 1 bits in the character; thus if the information bits contain an odd number of 1 bits, the parity bit is set at 1; otherwise, it is 0.

Parm--Acronym for PARaMeter.

Parse--To scan a stream of information such as a command or text, looking for selected words (or strings). Parsing is a fundamental activity in much of data processing, e.g., in translating programming languages, interpreting operator commands, and in text editing.

Partial Inversion--A method of inversion in which a subset of record fields is inverted; the record is normally stored in its entirety.

Partition--A group of source statements with common attributes; a section of the .PR file or of memory having common attributes.

Partition Attributes--The characteristics of the code or data within a partition; i.e.,

> Absolute, ZREL, long NREL, or short NREL
> Shared or unshared
> Normal base or common base
> Aligned
> Code or data
> Overwrite-with-message or overwrite-without-message
> Local or global (user-defined partitions only)

PASCAL--A high-level programming language named for Blaise Pascal. PASCAL is highly user-oriented, easy to learn and structured.

Password--A combination of letters that, used in conjunction with your username, allows you to log onto, and use the system.

Pathname--A path, usually including directory names, to a directory or individual file. For example: :ERGO:JACKNJILL:FALLING:NOWATER.

PBX--Acronym for Public Branch eXchange. A telephone switch located on a customer's premise that uses single line telephone instruments; also referred to as an Electronic Automated Public Branch eXchange (EAPBX).

.PENT--Acronym for Procedure ENTry. A psuedo-op which defines the procedure's starting address so that other modules can call it.

Peripheral Device--Any part of the computer system except the CPU. Line

printers, card readers, teletypes, digital plotters, and display terminals are all peripherals.

Peripherals Directory (PER)--The system directory that holds all device entries; full pathname :PER or the prefix "@". The prefix "@" that you use with devicenames and queuenames specifies the peripherals directory.

Physical Pointer--An address of an area in storage, either absolute or relative.

Physically Linked DBMS--A DBMS under which storage structuring is characterized by a predominance of physical pointers for establishing relationships between the data.

Physically Serial Access Method--An access method wherein records exist or are accessed one after the other without reference to keys.

Picture Clause--A clause that specifies the appearance of data on a report.

PID--Acronym for Process IDentification number.

Pinout--A description of the function of each pin on an IC, often presented in the form of a diagram.

Pitch--The number of characters that can fit in one inch of a line of text, typically, 10, 12 or 15. If, however, Proportional Spaced printing is used,
the concept of pitch is meaningless.

Pixel--Acronym for PIX ELement. A picture element or dot; the smallest element on the display screen that can be illuminated or darkened individually. For the D410/460 terminal with normal character spacing in effect, there are 810 pixels across the width of the display screen; with compressed spacing, there are 1215 pixels across the screen. In both cases there are 12 pixels for each character row (24 rows = 288 pixels).

Place Marker--See Marker (3).

.PL File--A source code copy file containing code to be included into the proceedure division of a PROXI program.

Plotter--A machine that draws pictures, graphs, schematics, and other such pictorial representations under computer control.

PMD--Acronym for Packed MetaData. The internal descriptions of a database, used by the controller to access the database. See Metadata.

Pointer--A data element that indicates the address of (or points to) a piece of information.

Pointer Array--A collection of addresses that point to all members of a set or a group of records.

Polling Proceedure--A routine for sequentially checking each I/O device to

determine whether it requires servicing.

Position Clause--A clause that specifies the position of data on a line in the report.

.PP File--A parameter file containing information about a PROXI program. This file is used to generate the COBOL code for the program.

Portability--Support for a language on more than one hardware line. Portability yields machine independence.

Position--The current record within the navigational access of a database.

Position-Independent Routines--Routines whose references are limited to immovable or pc relative resources.

.PR File (Program File)--An executable program file LINK creates from one or more object modules and/or library files; identified by the .PR filename extension.

Precision, Double--The retension of twice as many digits of a quantity as the computer normally handles; e.g., if a computer, whose basic word consists of 10 decimal digits is called upon to handle 20 decimal digit quantities, then double precision arithmetic must be used.

Precompiler--A program that interrogates an application program and replaces DML statements with "Calls" to DBMS routines.

Preprocessor--A high-level language used to compile source code to a specific form that can be read by another compiler.

PRESENT--DG's term for the software used to prepare reports based on data stored in the computer.

Primary Key--A key field, usually unique, which is used to physically order records in some file organizations (e.g., ISAM), or to provide primary access in randomized storage structures. In the relational model, there is one Candidate Key in a relation.

Principal Data File--The main data file used by the PROXI program. This is the file on which a File Maintenance or File Inquiry Program operates. It is the main source of information for a Report Writer or Form Printing Program.

Printer--A device that writes output data from a system to paper or other media. Popular types include the daisywheel and the high-speed dot-matrix.

Printout--A printed report produced by a computer and printer.

Priority--The priority determines the order in which computer runs are processed and their cost. A parameter designating the relative urgency of a task or process.

Privacy Key--A password (or other appropriate data) given by a run-unit to be

applied to a privacy lock.

Privacy Lock--A value or a procedure which, as specified in the DDL, is used to check user passwords for specified operations.

Private Data--Data protected from unauthorized users.

Procedural Language--A programming language in which the processing steps are specified in the order in which they are to occur, and in which the programmer
must issue instructions for every action. Most programming   languages, including COBOL, BASIC, FORTRAN, ALGOL, and PASCAL are   procedural languages.

Processor--The functional part of the computer system that reads and interprets instructions.

Program--A series of instructions, translated into binary codes, that the computer can execute. The text editor that allows you to write the instructions, the compiler or assembler that translates them, and the linker that positions them correctly are themselves programs. So are the CLI and operating system. Each program file that you can execute under the operating system ends in the characters ".PR".

Program Files--Files used to store related instructions necessary to solve a particular problem (contrasted with data files).

Program, Object--The program which is the output of an automatic coding system.   Often the object program is a machine language program ready for execution,   but it may well be in an intermediate language.

Program, Source--A computer program written in a language designed for the ease of expression of a class of problems or procedures, by humans; e.g., symbolic or algebraic. A generator, assembler, translator, or compiler   routine is used
to perform the mechanics of translating the source program into an object program in machine language.

Programming--The creation or modification of computer instructions. Writing a program.

PROM--Acronym for Programmable Read-Only Memory. A memory device whose contents are not lost when power is removed, and which can only be read.   It takes a special device called a PROM Burner to write on a PROM; once information is recorded by the PROM Burner, it cannot be erased. Used to save machine language programs that become part of the hardware of the   computer, as for example, the program that starts up the computer when   power is first turned on.

Prompt--A signal that tells you a program is waiting for input.

Proportional Spacing--The spacing of characters in proportion to their size. An ordinary typewriter produces letters of uniform width, irrespective of their sizes. By contrast, some printers and most typesetting machines

provide less space on a line for narrow characters, and proportionally more for wide ones, Proportional spacing is usually desired when the printed text must be camera-ready for reproduction.

Protected Program--A program stored in a computer, or on disc or tape, which cannot be erased.

PROXI--DG's term for the software used to prepare programs in COBOL.

Psuedo-Macro--All CLI pseduo-macros begin with a bang (exclamation point (!)). The CLI has two types of pseudo-macros: those that expand to a string or numeric value (e.g., !TIME and !DATE) and specify conditional execution (e.g., !EQUAL and !ELSE). The first type of macro is used as an argument or function, whereas the second acts as a command.

Purge--The process taken by the computer to remove data files previously saved by a user. Also called delete and remove.

Quality Assurance--See Quality Auditing.

Quality Auditing--Any technique used in the administration of a database to check the continuing integrity of contained data.

Query--(1) A set of PRESENT commands that you can use to extract data from a data source and, optionally, format that data into a report ro chart. (2) The act of extracting data from a data source. (3) A combination of commands that lets you retrieve information from a database without writing a special program to do so. (4) A command issued by a device requesting selected information from another device. Several of the D410/460 commands allow the the host computer to request various types of status information from the terminal.

Query Command--A PRESENT command that you enter into the Query Workspace or save in a macro for the purpose of selecting, manipulating, or formatting query data.

Query Language--A high-level, user-oriented language, often interactive, that supports database access without a host language.

Query Workspace--The area in PRESENT where you can edit, modify, delete, and execute query commands.

Queue--(1) The storage area in the computer where jobs reside while they are waiting to be processed or waiting to be printed. (2) A list of things to be done, such as messages that are awaiting processing, jobs that need to be run, data to be filed, etc. Queues are built by software when there is more work to be done at the moment than can be accomplished. The software stores its backlog in a queue and as tasks are completed it pulls the next item
from the queue. To place in a queue is to enqueue, and to remove from it is
to dequeue.

Quiesce--To restrain the computer system from starting new jobs so that as the current jobs reach completion, the system gradually winds down until nothing is
running. A system is usually quiesced in preparation for a planned outage,
or at the end of the day.

R2 Map--A computerized grid mapping system developed in Region 2 and now being used by many forests in Region 6 for forest planning.

R6 Map--A computerized grid mapping system under development in Region 6. An enhancement of Mt. Hood Map, to be run on FLIPS.

Radix--The number of characters available for use in each of the digital positions of a numbering system. Same as the base. For example, the radix of the binary system is 2; the radix of the decimal system is 10.

RAM--Acronym for Random Access Memory.

Random--Disc systems use two storage methods: random and sequential access. Random access implies you may read pieces of information at random. Random access files are accessed by a record number (location within a group of records). In order to find a random access record quickly and accurately, random files consist of same-length records.

Random Access Memory (RAM)--This is the main memory of a computer. RAM can be used to refer either to the integrated circuits which make up this type of memory or the memory itself. The computer can store values in distinct locations in RAM and recall them again, or alter and re-store them if it wishes. Information stored in RAM is generally lost when the power is off.

Random Files--Files that are fixed in length and for which the time to access any record in the file is the same (contrast with sequential files).

Randomized Access--An access method whereby potential record keys correspond on a many-to-one basis to available physical locations in storage. A mapping function (i.e., a randomizing algorithm) determines the actual location for any
given record.

Randomizing Algorithm--A transformation or mapping function used in the randomized access method.

Raster Scan--A method of displaying information on a CRT. A raster scan consists of sweeping an electron beam across a display screen on a line-by-line basis, turning on pixels as required to create the desired image.

RDOS--Acronym for Real-time Disc Operating System.

Read--Read means getting a piece of information from a file and putting it in the computer memory.

Read-Only Memory (ROM)--This type of memory is usually used to hold important programs or data which must be available to the computer when the power is first turned on. Information in ROMs is placed there in the process of

manufacturing the ROMs and is unalterable.   Information stored in ROMs does not
disappear when the power is turned off.

Read-out--To sense information contained in some internal storage and transmit
this information to a storage external to the computer.

Read/Write--For the D410/460 terminal, a type of memory that retains data
written into it until power is turned off (volatile) or until new data is
written over the old data.

Real Time--Computer operation with regard to a related process so that the
computer results are available to conduct or guide the process.

Realm--A named logical subdivisioon of a database as specified in the
subschema.   A realm corresponds to an area.

Reconnect--The access privilege that allows you to modify a member record's
position within occurrences of a set type.

Record--A series of one or more characters written to or read from a file.
There are four record formats in the Eclipse MV-series computer systems: Data
Sensitive (delimited by NEW LINE, form feed, or null); Fixed   (established
to
be a constant number of characters); Variable (established by the number of
characters written); and Dynamic (established by the   variable involved in the
write or read).   A group of data items and data   aggregates stored as a named
collection in a database.   A record is called   a segment or an entry in some
DBMS.

Record Array--A table in which records of a set are physically juxtaposed.

Record Field--A unit of information within a file.

Record Key--A field within a record that may be used to locate a record within
a data file.

Record Selection--One or more logical tests to be performed to determine
whether or not to accept a particular record for processing.

Record Type--A model that describes the types of data values that may be stored
in a database. It consists of a collection of one or more data items.

Recovery--Any procedure to correct the detrimental effects of a machine or a
software failure.

Recursive Structure--A data structure characterized by the relating of records
of the same type, typically in the sense of components (substructure), and
where-used (superstructure); often used in bill-of-materials applications.

Reentrancy--A characteristic of code wherein the state of the process is kept
external to the process itself so that execution can be interrupted at any
point to service another task. Multithread code must always be reentrant.

Re-Entrant Code--A program task or routine that can be executed simultaneously by more than one process.

Reference File--A data file that provides additional information for processing the principal data file. Reference files eliminate the need to duplicate information on a single file.

Register--A small special-purpose memory within the CPU, where information is held temporarily and manipulated according to program instructions.

Relation--The set of all tuples of a given type (relational model).

Relational DBMS--A DBMS which supports a relational view of data, i.e., flat files and data sublanguages.

Relational Model--A theoretical approach to data management based on tables and their manipulation; proposed by E.F. Codd and others.

Relational Operator--(1) A symbol indicating a mathematical operation or a relationship between two values (+,-,x,/,=,<,>). (2) A named operation (e.g., "Join") performed on one or more tables (relations) in the relational
model.

Relocatable Binary Module--An RDOS or RTOS object module.

Relocatable Code--|
Relocatable Data--| Code or data that LINK and the operating system can relocate (reposition) to any location within a broad memory range; code or data
in   which the relationship between the data elements is more important than their actual locations.

Relocation--A method of repositioning code and/or data relative to relocation bases in memory.

Relocation Base--A value generated by the language processor and/or LINK; indicates a partition's base address in memory.

Relocation Dictionary Entry--An Element within a data block generated by the language processor and used by LINK to resolve the value of a data word.

Relocation Entries--Relocation information within data blocks, partition and overlay definition blocks, and various symbols blocks; generated by the language processor and used by LINK to relocate partitions in memory.

Relocation Operation--An element within a relocation entry or relocation dictionary entry; generated by the language processor to describe the kind of relocation LINK will perform for a data word or object block.

Remote Computing--The purchase of processing time on a system supported by an independent time-sharing company.

Reorganization--An operation required periodically for databases; the purpose

is to reinitiate storage structures after updating has filled existing space, distorted physical locations, distended chains, etc. In reorganization, data is typically unloaded and then reloaded after space has been reallocated.

Report--A tabular display of query data values.

Report Writer Program--A PROXI program that generates reports using a principal data file and up to nine reference files.

Reset--Reset instructs the computer to re-start. In effect, it turns the computer off, then on again.

Resolution--The degree of focus and clarity of a video display screen.

Response Time--The time it takes for a computer or other device to do what is asked of it. Response time generally lengthens as a system grows more complex. Typical examples include the time it taked for a computer to recognize that a terminal has sent it a signal, or the time it takes for a disc
drive to find a document. The DG's response time gets quite long with very many users on line at the same time.

Resource--The root or overlay portion of the program file (16-bit programs only).

Resource (Procedure) Calls--The system calls ?RCALL, ?KCALL, and ?RCHAIN; used to reference external root or overlay resources.

Restart--The reinitiation of run-units, often from a prior checkpoint, after a software or a machine failure.

Resource Handler Routines--System-defined routines (in the system library) that load, manage, and release resources at runtime.

Retrieval--Access to data in a storage structure without update.

Return--(1) A delimiter at the end of a line of data. (2) An instruction at the end of a subroutine which permits control to return to the proper point in the main program.

Rings--(1) Seven hierarchical memory contexts (numbered 0 through 7); the basis of the AOS/VS protection scheme. (2) See Chain.

Roll-Back--The application of before-images from a journal to a database in order to reverse the changes made by one or more run-units.

Roll-Forward--The application of after-images from a journal to a database to bring a copy of the database up to date.

Root--(1) In a hierarchical data structure, the record or the segment to which all other records or segments are subordinate (the top of a tree). (2) A type of resource; that part of a program which is memory resident during execution (16-bit programs only).

Root Directory (:)--The system master directory that contains, and gives access to, all other directories.

Routine--A set of coded instructions arranged in proper sequence to direct the computer to perform a desired operation or sequence of operations. A subdivision of a program consisting of two or more instructions that are functionally related; therefore, a program.

Routine, Diagnostic--A routine used to locate malfunction in a computer, or to aid in locating mistakes in a computer program. Thus, in general, any routine specifically designed to aid in debugging or trouble shooting.

Routine, Executive--A routine which controls loading and relocation of routines and in some cases makes use of instructions which are unknown to the general programmer. Effectively, an executive routine is part of the machine itself.

Routine, Service--A broad class of routines which are standardized at a particular installation for the purpose of assisting in maintenance and operation of the computer as well as the preparation of programs as opposed to routines for the actual solution of production problems. This class includes monitoring or supervisory routines, assemblers, compilers, diagnostics for computer malfunctions, simulation of peripheral equipment, general diagnostics and input data. The distinguishing characteristics of service routines, is that they are generally standardized so as to meet the servicing needs at a particular installation, independant of any specific production type routine requiring such services.

RS-232--A standard of the Electronic Industries Association (EIA) describing the most commonly used interface between communicating data processing equipment and modems.

RTOS--Acronym for Real-Time Operating System.

Run--To follow the sequence of instructions in a program,.

Runstream--A set of control statements and data used as a group that will produce a desired result such as the running of a particular job.

Run-unit--An executing program for a user. A run-unit is typically under the control of a DBMS or some other control system, and can be either batch or task-oriented in an on-line environment.

S2K--Acronym for System 2000. (K is for kilo, which stands for 1000).
Trademark for the DBMS marketed by Intel which is available at FCCC and is
used
by the TRI and other systems.

Scalar Value--An integer declared as such in a programming language and
possessing a value within a fixed renge.

SCC--Acronym for Systems Coordinating Council. The Washington Office "clearing
house" for approval of national computer systems, may be replaced as a
result of the National Systems Review.

Schema--The structure of a particular DG/DBMS database. The complete
description of all data items, record types, and set types that exist in a
database.

Screen Format-An image of a data-entry screen. File Management and File
Inquiry Programs use one to four screen formats to interact with the program
operator. The screen format may contain a number of different types of
fields which may display variables and constants or request data from the
operator.

Screen Image--The picture of a screen format.

Scroll--To move all the text on a display upwards or downwards.

.SD File--A copy file containing the Screen Section code for a particular
screen format.

SDIP--Acronym for System Development and Implementation Plan. Annual Region 6
document showing computer systems which are proposed or approved for
development.

Search And Replace--The process of finding an occurrence or occurrences (as
specified by the user) of a character, word or phrase, and replacing it   with
some other character, word or phrase. Compare with Global Search And
Replace.

Search Field--Any field known to the DBMS so that conditional access based on
data value can be effected.

Search Key--(1) One or more data item values used to direct a search for a
matching record occurrence. (2)The data value supplied for a search field.

Search List--A list of directories that the CLI will scan whenever it can't
find the specified program or macro in the working directory; established with
the SEARCHLIST (SEA) command.

Second Independent Variable--See Independent Variable.

Secondary Indexing--Seee Indexed Random Access Method.

Secondary Key--See Alternate Key.

Sector--A subdivision of a track on a disc, constituting a unit of data storage space. For example, the disc might have 77 tracks, with each track subdivided
into 26 sectors of 128 bytes of data each. An address on the   disc consists of the track and sector numbers.

SED (Pronounced "seed")--One of the DG file editor programs.

Segment--See Record.

Segmentation--The division of data into relatively small groups or collections of fields that exhibit a correspondence in meaning and/or usage. Segmentation is an important feature of physical space management and data access in DBMS.

Selective Roll-Back--The roll-back of those changes made to the database by a particular run-unit.

Semiconductor--A material whose resistance to the flow of electricity can be varied by the presence of an adjacent electrical field, magnetism, or light. Highly refined semiconductor materials are used for the manufacture of extremely small, dense circuits in electronics. The most common   material is silicon.

Separator--A character, or sequence of characters, that denotes the end of an expression. The separators for CLI commands are: a space or series of spaces, a tab or series of tabs, a comma or series of commas, or any combination of spaces, tabs and commas. These characters separate commands from arguments, and arguments from other arguments.

Sequential--Elements of a sequential access file are expressed in order. If you want to read element number ten, you must first read the preceeding nine elements. Sequential storage methods are used when the amount of data, or length of record to be stored cannot be anticipated. Sequential files have an end-of-record marker, and you may have elements of varying length.

Sequential Access--Physically serial access performed on records ordered by key value; any access to records ordered by key value.

Sequential Files--Files in which the time to access any record in the file is a function of its distance from the beginning of the file (contrasted with random files). See sequential.

Serial--Same as Sequential.

Serial Interface--A peripheral connection in which information is sent to or from the computer one bit at a time over a single circuit.

Serially Defined Item--One item in a series of similar items. The PROXI system

allows you to define a series of logical tests for record selection, field validation, or conditional printing, a series of lines (detail, total, page break, and top of form lines), reference files, etc. When requesting serial information, the appropriate PROXI module loops through one or more screens until you signal that the series is complete, or provide the maximum number of entries.

Set--A collection of records in a database, with one occurrence of an owner record type, and zero, one, or more occurrences of member record types. In a set, the records bear a conceptual relationship to each other and/or to a commonly valued data item.

Set Type--(1) A Model that describes the relationship between two record types. (2) The definition of a set in the DDL.

.SF File--A screen format parameter file. This file contains information about a screen format; source code copy files may be generated from this information.

Shared Pages--Memory pages accessible to more than one process.

Single Contiguous Allocation--A memory-allocation scheme that assigns all available memory as one block.

Single Level Record Array--A record array which normally consists of records in the same format, and which contains no internal record arrays, i.e., flat file. See Multiple Level Record Array.

Single-Thread--Code that must service one task to completion before it can service any other task. See Multithread.

Singular Set--A set whose owner is specified to be the system so that only one set occurrence is possible.

SKIP IT Key--A PROXI function key that allows you to automatically verify all the remaining entries when changing a Report Writer or Form Printing Program.

.SL File--A source code copy file containing a SELECT statement for a data file.

.SOENT--Acronym for Symbol Overlay ENTry.

Software--Computer programs; there are three categories: systems software, utility software, and applications software.

Son Process--A process created by another process is called the son of the creating process. A son process is subordinate to its father process.

Sort key--A record field on which you perform a sort operation. The PROXI system allows ten sort keys when sorting the principal data file. In DG/DBMS, one or more data items specified in a set declaration that the system will use to store member record occurrences when it inserts them in a set occurrence.

Source Code--The original program in its original state. Since programs are sometimes compiled (translated into machine language, or a more efficient language), the distinction between source and run-time is important.

Source Data Description--The English-like description of your database (source schema) or part of it (source subschema). Contrasts with packed metadata.

Source File--A file with original, uncompiled program, source code; written by a person using a text editor. In BASIC, such a file can be merged into memory and run directly. In a language like FORTRAN or COBOL, a source   file must be compiled, then linked, before it can be executed.

Spatial--Of space; spatial information has characteristics of location and dimension, such as an area on a map.

SPEED--One of DG's file editing programs.

SPLAT--(*).

Spreadsheet--Software for manipulating data in a matrix format. (See matrix).

Stack--A block of consecutive memory locations generally reserved for storing variables, return addresses, subroutine arguments, and task-specific information.

Standard Allocation Pattern--A resource-allocation scheme designed to prevent deadlocks.

Star--(1) Aldebaran. (2) A hierarchical configuration of distributed processors.

Statement--A statement is one complete instruction or combination of instructions to a computer. The complexity of a statement depends entirely upon the language used and the programmer's style.

Static Allocation--The assignment of peripherals to a given job.

Static Relocation--The act of assigning absolute addresses at linking time.

Status--Computerr devices are either ready or not ready. When the computer wants to use a device, it checks its status to see if the device is ready.

Stop Bit--In asynchronous data communications, one or two bits sent after a character to create a pause so the receiving machine has time to act on the character before the next is sent.

Storage--(1) the term preferred to memory. (2) Pertaining to a device in which data can be stored and from which it can be obtained at a later time. The means of storing data may be chemical, electrical, mechanical, or a combination of these. (3) A device consisting of electrical, electronic, electrostatic, hardware, or other elements into which data can be entered, and from which data may be obtained as desired.

Storage Structure--The configuration of data as it resides in computer storage,

including the physical means for access. A data structure is supported by one or more storage structures.

Store--The access privilege that allows you to insert a new record occurrence in the database.

Subordinate Directory--A directory which is relatively lower on the directory tree.

Subprogram--A part of a program, by not necessarily included in the program. It may be called by the main program.

Subroutine--A set of instructions in a computer program that can be executed anywhere in a program as though they were a single instruction. A subroutine is invoked by a call instruction that transfers control to the subroutine. When a return instruction is encountered in the subroutine, control reverts to the instruction following the call, thus making it seem as though all the actions of the subroutine were performed by a single instruction placed in the position of the call. Subroutines are usually actions performed at two or more points in the program. Since the instructions in a subroutine are only written once, and may be called from many points throughout the program, the subroutine is an efficient means of economizing on the size of a program.

Subschema--A control device, specified by using an independent language, that defines a view of the database appropriate to a given user program. One view of a DG/DBMS database. A subset of the schema.

Superior Directory--A directory that is relatively higher on the directory tree.

SWAT--DG's high-level language debugger, which works with FORTRAN 77, COBOL, & PL/I.

Switch--A predefined character sequence that alters the functioning of a command. (1) The CLI uses two types of switches: those that you append to a command and those that you append to an argument. Some switches accept values while others do not. (2) An optional element of the LINK or LFE command line; a slash followed by an alphanumeric character or character string (e.g., /ALPHA). In the LINK command line, function switches modify the entire linking process; argument switches modify the utility's handling of a particular module or partition.

Switch Sequence--An optional element of the LINK command line; a slash followed by an alphanumeric character or character string, an equal sign, and another character or character string (e.g., /UC=SC).

Symbol Table--An output file produced by LINK; contains the names and values of all global symbols (and optionally, local symbols) in the program.

Symbolic Pointer--A data value, segregated from a record or a segment, by which

access to the record or segment can be effected.

Synchronous--A data communications term describing the way signals between machines ar timed.

Synonym Record--A record whose randomized key value points to a storage location already occupied by a previously randomized record.

Syntax--The structure of instructions in a given language.

SYSGEN--Acronym for SYStem GENeration. The process by which an operating system is configured out of individual system components to accommodate a particular hardware configuration.

System--A total collection of interrelated programs, equipment and/or people, machines, and equipment.

Systems Analysis--A rational approach to problem solving where the total system is considered before focusing on individual parts of the system. The term is used very broadly, such as to describe the analysis of global ecosystems or political systems. It may also apply to the analysis of a specific problem to
be solved by a computer application.

System Call--A routine residing in the operating system's address space. System calls save both time and space. They relieve the programmer of the burden of coding commonly used routines and they provide protection and security for storage devices.

System Cursors--Currency pointers into the database established and maintained by DG/DBMS.

System Library--A file of system routines written to satisfy user runtime requirements.

System Manager--The person who determines AOS/VS user privileges.

Systems Planning--A group within MS. This group is responsible for software systems planning, and for Region-wide budgeting related to computers.

System Set--A set type in which the owner is SYSTEM.

Systems Support--An MS group which is responsible for implementing and supporting computer systems, including FLIPS and Lot 7.

System Tables--Internal databases built by LINK to describe the .PR file's characteristics and memory requirements.

Tape--A magnetic medium suitable for file backup and mass storage. Tape drive device names are @MTBn or @MTCn, where n is the number dialed on the drive thumbwheel (for MTB devices) or selected during tape installation (for MTC drives). Tape files are numbered sequentially from 0. With a tape on drive
MTB0, you could access the second file as @MTB0:1.

Task--An atomic unit of activity in a process. The term "task" usually refers to a program in execution. A single process may have several tasks running within it, with each one getting a piece of the CPU time.

T&CT--Acronym for Telecommunications & Computer Technology. An MS group which is responsible for radio, telephone, and data communications; and for computer hardware systems.

TELCO--Acronym for TELephone COmapny. Either a BOC, or an independant telephone company.

Telecommunications--The transmission and reception of signals, sounds, images, etc., by wire, radio, visual, or electromagnetic systems.

Telenet--The GTE subsidiary which holds the DEPNET contract to provide data communications service between USDA sites.

Teleprocessing Monitor--A software facility, often interfaced with DBMS, that provides support for multiple on-line users via terminals in a highly transaction-oriented environment.

Template--A symbol that represents a set of characters. The CLI recognizes the following templates: +,-,#,*, and \ (backslash).

Terminal--A device, usually remote from the CPU, capable of information exchange with the CPU through some communications device.

Test, Diagnostic--A machine program or routine used to discover failures or potential failures of a machine element, and to determine its location or its potential location.

Text--Characters, usually letters and numbers.

Text Editor--(1) A processor that performs machine editing operations on computer files. (2) Software that manipulates text. SED and SPEED are examples of text editors.

TI 990--Texas Instruments model 990. An interactive microcomputer which is used in many Forest Service locations.

Time Sharing--Where many users have simultaneous access to a computer. Each user receives a small time segment in the CPU and then is swapped out to a

waiting line while another user has his/her time on the CPU.

Top-Of-Form-Print Line--One of up to nine lines that will appear at the top of the first (or only) page of a form.

Total Print Line--One of up to nine lines printed on reports and forms when a control break occurs. The total line may include calculated values, automatic totals, and/or literals.

Track--A unit of storage space on a rotating data storage disc. A track is one of many concentric circles of data written around the disc on one or both sides, and the read/write head positions itself over the track for access to it. A track is not physically isolated from the surrounding surface; it is merely the point where magnetic spots are recorded.

Translator--(1) A program whose input is a sequence of statements in some language and whose ouput is an equivalent sequence of statements in another language. (2) A translating device.

Transport, Tape--The mechanism which moves magnetic tape past sending and recording heads, and usually associated with data processing equipment.

Tree Structure--A data structure in which each record type is related to exactly one record type above it. The exception is one "root" record type, for which no higher record type exists. At each lower level in the tree there may be zero, one, or more record types related to a record type at the next higher level.

Tree Traversal Access--Navigational access in a hierarchical data structure.

TRI--Acronym for Total Resource Information system. The Region 6 multi-resource mapping, activity record, and data base management system.

Trifurcated--Having three electrical contacts in series, all closed by the same mechanical switch. If any two contacts fail, the switch still works.

Trinary--Having three states. An electrical current is trinary since it may be positive, negative, or off.

True Zero--See Zero.

TTL--Acronym for Transistor to Transistor Link. A method of electronically connecting two devices so that the signals flowing between them are electrically isolated from their internal circuitry.

TTY--Acronym for TeleTYpe.

Tuple--An ordered group of several data items, corresponding to a simple record (relational model).

Types--The definition or model of an entity used to define occurrences of the entity.

UART--Acronym for Universal Asynchronous Receiver Transmitter, used to transmit and receive data serially. The UARTs in the D410/460 terminal are responsible for communications with the host computer and optional printer.

Unbundling--The maintenance, by hardware manufacturers, of separate pricing structures for machines and for software. (The more usual method of pricing computer systems gives one price for the combination of machine(s) and software.)

Unpack--To separate various sections of a tape record or computer word and store them in separate locations. The sections correspond to format fields within the record or word.

Unshared Pages--Memory pages reserved for the exclusive use of a single process.

Update--(1) To put into a master file changes required by current information or transactions. (2) To modify an instruction so that the address numbers it contains are increased by a stated amount each time the instruction is performed.

User Directory--The directory created and maintained for each interactive user. Usually becomes the working directory when you log on. Allows inferior directories.

User Directory Directory (:UDD)--The system directory that contains each interactive user directory.

User Friendly--A buzzword meaning easy to use and suitable for nonprofessionals.

User Name--A name used by each FLIPS user to sign onto (Log on) the system.

User Profile--A disc file, created by the system manager or someone else in authority, that contains each user's username, disc space allowance, and other
priviledge specifications.

User, System--Anyone who, in any capacity, uses the system. Can be manager or operator seeking information, programmer, or nontechnical person.

User Work Area--See UWA.

UTIL--The utilities directory, contains most (if not all) utility programs on the system; often found in searchlists; full pathname: ":UTIL".

Utility, Utility Program--Programs supplied by Data General to help you develop your own progams; e.g., compilers, link, debugger. Some utilities are shipped as part of the operating system; others are optional extras.

UWA--Acronym for User Work Area. A part of a user's process space where data is stored while being manipulated.

Variable--(1) A quantity which can assume any of the numbers of some set of numbers. (2) A condition, transaction, or event which changes or may be changed as a result of processing additional data through the system.

Vector--A quantity having magnitude and direction. Contrast with scalar, which has quantity only. A one-dimensional collection of data items.

Verifier--A device on which a record can be compared or tested for identity character by character with a retranscription or copy as it is being prepared.

Via--Storage of records of a given type in such a way as to optimize access through a given set type; e.g., storage "near" an owner.

Virtual Overlays--Overlays that reside in extended memory, outside a program's logical address space. (RDOS and RTOS systems only.)

Virtual Storage (VS)--A method for assigning a program a larger address space than is actually available. In virtual storage, the memory of the machine is divided into units called pages, and the program code and its data work areas
are broken into pages of the same size. Only the program pages that are actually in use need be in memory at any given time; the rest can be held on a fast direct-access storage device from which they are fetched as needed, and to which they are written as processing fills them with results. The operating system monitors the use of pages and makes sure that pages are brought into memory as required and written out as completed. Thus, even if
a program needs a total of several million bytes of memory, only a few thousand
bytes are required at any time.

When paging occurs in a virtual storage system, an available page frame might be anywhere in memory and not necessarily within the addressing range of the program (where it "thinks" the page is). The operating system thus performs a function called dynamic address translation, in which the actual address of an item is automatically calculated based on where the program thinks it is, relative to the location of the page containing it. Pages of a program and its data therefore can be scattered all over the memory and disc storage, yet the program functions as though it owned a large monolithic area
of memory.

In this way, and in concert with multiprogramming techniques, several dozen programs, each using 16 megabytes of memory, can all be in concurrent execution on a single computer that has only 4 megabytes of real memory.

Volatile Memory--Memory that loses it contents when power is removed.

WATS--Acronym for Wide Area Telecommunications Service. A quantity pricing arrangement for long-distance service; a company buys a WATS line for a monthly fee entitling it to place or receive an unlimited number of calls within a certain time period and geographic area. '800' numbers (toll-free) are WATS lines.

Wide Frame Pointer--One of four hardware registers used to manage the wide stack; points to the last double word currently in use on the stack.

Wide Stack--The AOS/VS 32-bit user stack. See stack.

Wide Stack Base--One of four hardware registers used to manage the wide stack; contains the stack's base address (lower boundary).

Wide Stack Limit--One of four hardware registers used to manage the wide stack; contains the stack's upper boundary.

Wide Stack Pointer--One of four hardware registers used to manage the wide stack; contains the double word currently at the top of the stack.

Window--A reserved area on a display which is dedicated to some special purpose. Fpr the D410/460 terminal, a window consists of one or more consecutive character rows on the display screen. A window may contain   from 1 to 24 rows; there may be from 1 to 24 windows on the display   screen. The active window contains the cursor and has all the features of   a full display screen.

Word--In memory, a 16-bit entity. In text, a sequence of one or more ASCII characters that begins and ends with either a blank, NEW LINE, form feed, or null.

Word Length--The number of bits in a computer word.

Working Directory--The directory where you currently are; the current directory.

Working Set--In virtual storage, the pages of program code and data that must actually be in memory at a given instant for the program to work efficiently (i.e., to avoid excessive paging).

Write--Write puts information onto a disc or other media, including RAM. Contrasted with Read.

.WS File--A source code copy file containing Working Storage entries for a data file.

X--Abbreviation for Trans. Examples: Xformer; Xmit.

XODIAC--Data General's telecommunications system which links one computer installation to another.

XOR--Acronym for eXclusive OR. A logic operation in which two bits or electronic pulses are combined, producing one resulting bit according to the following rules:

                    0 XOR 0 ---> 0
                    0 XOR 1 ---> 1
                    1 XOR 0 ---> 1
                    1 XOR 1 ---> 0

This is similar to logical OR, except that OR returns a TRUE (1) value if both bits are 1.

YYY
YYY

Zero--Floating-point zero is represented by a number with all bits zero, known as true zero. If a number has a zero mantissa but not a zero sign or exponent, it is called impure zero. When representing zero as a floating-point number, use true zero; impure zero produces undefined results in calculations.

ZREL--Page zero relocatable memory; by default extends from 50(8) through 377(8).

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